

In the Matter of: )  
 )  
Application for Certification ) Docket No.  
for the Elk Hills Power ) 99-AFC-1  
Project )

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMITTEE MEMBERS PRESENT

Michal Moore, Presiding Member

Robert Pernell, Commissioner, Associate Member

Ellen Townsend-Smith, Commissioner Advisor

Melissa Jones, Commissioner Advisor

Major Williams, Jr., Hearing Officer

PUBLIC ADVISER

Roberta Mendonca

STAFF PRESENT

Kerry Willis, Staff Counsel

APPLICANT

Taylor O. Miller, Attorney at Law

Jane Luckhardt, Attorney at Law

Dennis Champion, Elk Hills Power

INTERVENOR

Katherine Poole, CURE

Mark Wolfe, CURE

ALSO PRESENT

Scott A. Galati, Attorney at Law

Allan Thompson, Attorney at Law

Mark R. Wolfe, Attorney at Law

Nicolas Stern, Deputy Attorney General

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## 1 P R O C E E D I N G S

2 PRESIDING MEMBER MOORE: Good morning,  
3 everyone. I am Michal Moore, I'm a Commissioner,  
4 and Presiding Member on the Elk Hills Power Plant  
5 case. Today I'm joined on the dais by my  
6 colleague, Robert Pernell, who is two down to my  
7 right; Major Williams, who is our Hearing Officer;  
8 my aide, Melissa Jones, who is on my left; and  
9 Ellie is aide to Commissioner Pernell, and she is  
10 on the right.

11 And I will say that we -- we miss sorely  
12 Shawn Pittard, who has left state employment, and  
13 was carrying this case with us, and he will be  
14 ably taken the place of by Melissa. Which doesn't  
15 mean that we -- that we don't miss him, and miss  
16 his input, and sorry that he won't complete the --  
17 complete the case with us.

18 MS. JONES: Luckily, I still his phone  
19 number.

20 PRESIDING MEMBER MOORE: You still --  
21 still have his phone number. We know where to  
22 find him. Actually, since we're going climbing  
23 together in a couple of weeks, I know where to  
24 find him, as well. So we'll have some continued  
25 contact.

1           Today's hearing is primarily concerned  
2       with water issues, so we -- we've fairly narrowly  
3       circumscribed the boundaries of this. We have  
4       some housekeeping and procedural matters to go  
5       through at the front end, and for that I'm going  
6       to turn to Major and ask him to outline the  
7       motions that we have had come in recently.

8           HEARING OFFICER WILLIAMS: Okay. Just  
9       preliminarily, let me say that we are here this  
10      morning to conduct evidentiary hearings on the  
11      Application for Certification for the Elk Hills  
12      Power Plant, Docket Number 99-AFC-1. The parties  
13      who were last present in the hearing room are  
14      again present.

15           I would like interested individuals who  
16      are attending this hearing to identify themselves  
17      by name and organization. So if we could have  
18      those individuals in the audience who are here to  
19      come forward, and identify themselves. And if you  
20      have a business card, it might be helpful if you  
21      would give it to the court reporter.

22           PRESIDING MEMBER MOORE: For those who  
23      are intending to testify.

24           HEARING OFFICER WILLIAMS: No, just for  
25      folks who are intending to speak or who are here



1 to observe, if you would just state which is it, I  
2 would appreciate it.

3 MR. LEDFORD: My name is Gary Ledford,  
4 and I'm here to speak as a public speaker.

5 MR. WOLFE: I'm Mark Wolfe. I'm here as  
6 an observer. I work for CURE.

7 MR. STERN: I'm Nicholas Stern, I'm with  
8 the California Attorney General's Office. I'm  
9 here to observe.

10 HEARING OFFICER WILLIAMS: Again, if you  
11 have business cards, would you please give one to  
12 the court reporter, so she can have some idea of  
13 how to spell your name.

14 MS. VASSEY: And I'm Sheila Vassey, I'm  
15 from the State Water Board.

16 MS. CROCKETT: Marcy Crockett. I'm here  
17 as a public observer. And I will be making some  
18 comments during the public participation part.

19 HEARING OFFICER WILLIAMS: What was your  
20 name again, ma'am?

21 MS. CROCKETT: Marcy Crockett.

22 HEARING OFFICER WILLIAMS: Thank you.

23 MR. THOMPSON: The Crockett name, again.

24 My name is Allan Thompson, observe and  
25 learn.

1                   MR. GALATI: Scott Galati. I'm here to  
2                   observe.

3                   MR. CHAMPION: Dennis Champion, with Elk  
4                   Hills Power.

5                   HEARING OFFICER WILLIAMS: The gentlemen  
6                   from the AG's office, will you be making any  
7                   comments at all, or are you strictly observing?

8                   MR. STERN: No, I'm here just to  
9                   observe.

10                  HEARING OFFICER WILLIAMS: Okay. Thank  
11                  you.

12                  PRESIDING MEMBER MOORE: Good. Well,  
13                  we'll continue.

14                  HEARING OFFICER WILLIAMS: This  
15                  evidentiary hearing is a continuation of the  
16                  hearing conducted on March 9, and concerns State  
17                  Water Resources Control Board Resolution 75-58.

18                  At the hearing on March 9, the Committee  
19                  ordered the parties to file written briefs on the  
20                  issues germane to SWRCBR 75-58. All parties have  
21                  filed timely briefs.

22                  There are several motions pending at  
23                  this point before the Committee. Applicant has a  
24                  pending motion to close the evidentiary record or,  
25                  in the alternative, to limit the scope of any

1 further testimony or hearing concerning water  
2 resources, which was filed on April 14th, 2000.

3 Applicant has also joined a motion by  
4 staff; to wit, staff motions to strike portions of  
5 CURE's reply brief of Phase 2 issues in the Elk  
6 Hills Power Project Application for Certification,  
7 filed on April 18th, 2000.

8 We will take argument on the motions.

9 Applicant, are you ready to proceed?

10 MR. MILLER: Yes.

11 HEARING OFFICER WILLIAMS: Please.

12 MR. MILLER: Thank you.

13 We filed our motion on April 14th, and  
14 provides information and points which we felt  
15 relevant to the issue of whether the information  
16 in the reply brief should be admitted or allowed  
17 to be heard as part of this hearing. And we  
18 subsequently joined in staff's motion to strike  
19 those portions as marked in staff's motion of  
20 April 18th.

21 I won't repeat the arguments included in  
22 our five-page or so motion. You have that. I'll  
23 simply summarize by saying that in our view, CURE  
24 is attempting to open new areas of testimony in  
25 its reply brief, with -- which obviously could and

1       should have been introduced at the hearing on  
2       March 9th.  These deal with impacts of water  
3       supply.

4               We had testimony, we had a hearing  
5       devoted to that purpose on March 9th.  We had pre-  
6       filed testimony on that.  We had, way ago in  
7       December, a pre-hearing conference where that  
8       issue could've been noticed as one that would be  
9       likely to be an issue.  So we feel that there was  
10      ample opportunity to put a case on.

11              CURE decided not to do that.  And we  
12      have the record before us that was made on March  
13      9th, and in our view one hearing is enough.  We  
14      don't need to do it twice.

15              Now, CURE argues that, in its response  
16      to our motion, and into that of staff, that this  
17      is merely a response, a rebuttal of material that  
18      was introduced for the first time in the opening  
19      briefs of the Applicant and of staff.

20              This seems to me to be palpably wrong,  
21      because the topic of impacts of West Kern Water,  
22      as I said a moment ago, were out there for parties  
23      to address and respond to for a long time, and  
24      including a conclusion reached on that subject  
25      that there were no significant impacts in the

1 staff's FSA back in February. So if that was a  
2 matter of dispute, the time to make that dispute  
3 was March 9th. And before that, in pre-filed  
4 testimony, as a matter of fact.

5 So we don't accept that, and we would  
6 simply note that the reference to insignificant  
7 impacts of water supply that were included in the  
8 staff briefs and in our brief, and I'll certainly  
9 defer to staff to characterize its own filings,  
10 but they were there simply as a reference to that  
11 point that was found to be relevant in the La  
12 Paloma and High Desert proceedings with -- in  
13 those decisions, to the effect that the  
14 insignificance of the impacts of the proposed  
15 water supply was considered a relevant factor when  
16 it -- applying 75-58 in those cases.

17 However, those references in our briefs  
18 to a conclusion reached and prior testimony on  
19 insignificance, was not itself new testimony  
20 requiring a rebuttal. It was simply a summary of  
21 the legal significance of testimony that had  
22 already been given in the FSA and at the hearing  
23 on March 9th. So this is a -- the only thing new  
24 that went on in the opening briefs, if anything,  
25 was a legal conclusion drawn from previously given

1 testimony.

2           So we do not think it's appropriate to  
3 use that as an excuse to unhinge the door and then  
4 revisit all of the things that we could have  
5 talked about, and did talk about, on March 9th.  
6 So that -- that's how we view the rebuttal  
7 argument.

8           I'd also like to point out that of the  
9 four topical areas included in CURE's reply brief,  
10 with 50 or more footnotes to various references  
11 and books and articles, et cetera, two of those  
12 four have already been closed, in any event. That  
13 would be biology issues and reliability issues.  
14 There were four general topical areas in the reply  
15 brief from CURE. They were -- dealt with pumping  
16 impacts, overdraft claims, impacts on the Delta  
17 claims, and the reliability of the water supply.

18           Well, we've had a hearing on biology.  
19 That's closed. We've had a -- which deals with  
20 the Delta impacts. We've had a hearing on  
21 reliability; that's closed. So for those reasons,  
22 additionally, it's not appropriate to go into  
23 those matters again.

24           Maybe most importantly, the Committee,  
25 in its order prior to this hearing, setting this

1       hearing, made some rulings on the relevancy of --  
2       of significant impacts as distinct from the issues  
3       germane to interpreting the Inland Water Cooling  
4       policy in 75-58. And in the order, it states that  
5       the matters relating to interpretation of 75-58  
6       are separate and wholly distinct, a wholly  
7       distinct inquiry from those relating to  
8       significant impacts under CEQA.

9               So it seems to me, then, that if that's  
10       the case, and indeed CURE made that argument in  
11       one of its -- in its reply brief, as well, then we  
12       do not need to address, and it is no longer  
13       relevant to address, the significance or  
14       insignificance of the West Kern water supply  
15       that's proposed to be used by Applicant. So it's  
16       off the table, and what we've got is the issues  
17       that Commissioner Moore directed us to brief in  
18       the first place, which is the terms used in the  
19       75-58 regarding environmental -- excuse me,  
20       economically sound, what does it mean -- or  
21       unsound, I should say. And further confirmation  
22       of cost information that was provided in the March  
23       9th -- excuse me -- March 9th hearing.

24               Those are the issues that are relevant  
25       to interpreting 75-58 by the Commission's -- by

1 the Committee's own order, and therefore, for that  
2 reason as well, it's not appropriate to go into  
3 the -- all the issues that CURE raises in its  
4 reply brief that it could have raised on March  
5 9th.

6 I'm going to defer to staff to some  
7 degree on some of the other issues. There's a  
8 matter of official notice, whether or not official  
9 notice can be taken of the 50, or however many,  
10 citations there are in the reply brief, to various  
11 documents that are public, but were never  
12 sponsored by a witness, never introduced into  
13 evidence as exhibits.

14 We -- you'll note that in the  
15 Applicant's brief -- briefs that have been filed  
16 in the past, as well as staff's, the purposes of  
17 those briefs, and in other proceedings, have  
18 always served, is to provide a summary and a  
19 presentation on the legal significance of evidence  
20 that's introduced at the hearings. They are not  
21 used to themselves present evidence.

22 And if the argument CURE presented about  
23 official notice were accepted, we might as well  
24 just dispense with the hearings altogether and  
25 just brief everything. And cite what we want to



1 cite, and let the other party cite what it wants  
2 to cite, and then we'll be off to the races.

3 So I think that it proves too much to  
4 say well, that you have to, or you must take  
5 official notice of all of our references. It's  
6 appropriate, and the purposes of hearings are to  
7 lay a foundation for -- for exhibits, to explain  
8 the relevancy, to share them with the parties, to  
9 allow for pre-review of those and pre-filed  
10 testimony, and comment at hearings and cross  
11 examine.

12 So it's just another way they've come up  
13 with of introducing into the record material that  
14 was not introduced at the hearing, perhaps to  
15 provide a foundation for some future actions. We  
16 don't know.

17 So that's what we have to say about  
18 official notice, and we would request that the  
19 Committee deny the request for official notice of  
20 the materials in the reply brief that they are  
21 requesting notice to be taken of.

22 Finally, I would just like to point out  
23 the obvious, maybe, that under the Commission's  
24 procedures, parties are required to follow certain  
25 procedural requirements for entry of evidence, and

1       should not both submit evidence subject to cross  
2       examination and then submit additional material  
3       whenever they like, and claim that it's in the  
4       record, or that it requires official notice.

5       We -- we have opportunities for rebuttal, we have  
6       opportunities for cross, for whatever, under the  
7       Commission's regulations for Intervenors.

8               But we also have obligations and duties  
9       imposed upon Intervenors. And one of those is to  
10      put their testimony on when it's time, and not  
11      attempt to tack it on later and prolong and  
12      protract and expand dramatically the scope of this  
13      hearing beyond what Commissioner Moore said  
14      direction was on March 9th.

15             So with that, I'll close, and be happy  
16      to respond to questions.

17             HEARING OFFICER WILLIAMS: Thank you,  
18      sir.

19             As a matter of order, my suggestion is  
20      that since the motions are so closely related, to  
21      have staff proceed and talk on its motion, and its  
22      summary of its view of the Applicant's motion,  
23      and then proceed to CURE and have CURE offer its  
24      argument, and then perhaps rebuttal argument. And  
25      then we can close it out that way, if that's okay

1 with the parties.

2 MS. POOLE: That's fine. That's how we  
3 thought we would proceed, as well.

4 HEARING OFFICER WILLIAMS: Okay. Good.  
5 Staff.

6 MS. WILLIS: Thank you. We had also  
7 thought it was probably more appropriate if we  
8 just comment on our own motion, since our motion  
9 also would limit the scope of our discussions  
10 today.

11 Staff filed a motion to strike the  
12 portions of CURE's reply brief on Phase 2 issues  
13 that alleged significant environmental impacts  
14 from the proposed water source for this project.  
15 And we've moved to strike those portions of the --  
16 of that brief for the following reasons.

17 First, CURE's argument is supported by  
18 facts not in evidence. CURE continually alleges  
19 facts that are not part of the evidentiary record.  
20 CURE claims that staff's conclusions that there  
21 are no significant environmental impacts from the  
22 proposed project -- from the proposed water source  
23 is somehow new. Staff's position was made clear  
24 months ago, in its Final Staff Assessment and in  
25 its testimony.

1           Mr. O'Hagan testified at the March 9,  
2           2000 hearing that since he found no environmental  
3           impacts he looked at the policy, 75-58, and then  
4           found it was not useful. And I would refer the  
5           Committee to page 196 of the transcripts.

6           CURE provided no written or oral  
7           testimony to refute staff's analysis, nor was it  
8           addressed in CURE's opening brief. CURE now  
9           claims that the Commission should take official  
10          notice, as Mr. Miller stated, of the many new  
11          pages of new cites. I refer the Committee to  
12          Section 1213 of the Energy Commission's  
13          regulations on official notice, and I'll just read  
14          the first sentence.

15                 "During a proceeding, the  
16                 Commission may take official notice  
17                 of any generally accepted matter  
18                 within the Commission's field of  
19                 competence, and of any fact which  
20                 may be judicially noticed by the  
21                 courts of the state."

22           I mean, that definitely gives the  
23           Committee some discretion on whether there's  
24           judicial notice, or official notice is taken.

25           The majority of the information CURE

1 relies on, though, is not general knowledge or --  
2 or even -- even regulations, as they -- they  
3 claim. The majority of the information are agency  
4 updates, status reports, working papers, that  
5 should require a competent witness to lay the  
6 foundation for each document under oath. Without  
7 that foundation, staff is unable to determine the  
8 relevance of these documents. We don't know if  
9 they're outdated. We would need someone to -- to  
10 sponsor those documents.

11 CURE does cite to the Federal Register,  
12 but only in reference to listing of the endangered  
13 species, not to support their argument.

14 Staff strongly requests that the  
15 Committee not take official notice of CURE's new  
16 information.

17 Secondly, if considered new testimony,  
18 those facts that CURE relied on are not -- that  
19 are not in the evidentiary record are not provided  
20 by an expert witness, under oath. If considered  
21 new evidence, our -- back to our own Code of  
22 Regulations, Title 20, Section 1201, sub 8,  
23 requires that testimony be, quote, any oral or  
24 written statement made by any person, under oath,  
25 in any proceeding before the Commission.

1           Staff and other parties will not be able  
2           to cross examine a witness, as one apparently  
3           doesn't exist in this case.

4           Third, the evidentiary record on  
5           biological resources was closed, and CURE has  
6           provided no compelling reason to reopen that  
7           record. CURE raises issues of impacts to  
8           fisheries that is covered under the subject area  
9           of biological resources. And that -- when we had  
10          a hearing on that area, and when CURE was -- had  
11          the opportunity to provide testimony, they  
12          provided no written or oral testimony in that  
13          area, and the evidentiary record in that subject  
14          matter was closed.

15          Fourth, CURE's arguments do go beyond  
16          the scope of what we feel is Commissioner Moore's  
17          request to brief the issue of economic unsoundness  
18          in the context of wet and dry cooling. Staff did  
19          not object to CURE's filing extensive broad, you  
20          know, based new testimony in its opening brief,  
21          because we felt that it was related to the  
22          Committee's request for more information on that  
23          issue of economic soundness. However, this new  
24          testimony in its reply brief clearly goes beyond  
25          the scope of that request.

1                   It's been made clear to staff that  
2           intelligent minds do and are disagreeing on how  
3           the State Water Board Policy 75-58 should be  
4           interpreted, and if or how it should be  
5           implemented.

6                   Staff performed a CEQA analysis and  
7           determined there were no significant environmental  
8           impacts from the proposed water supply. Staff  
9           then turned to the policy to determine how it  
10          might apply in this case. The policy, read in its  
11          entirety, is vague and uses many discretionary  
12          terms.

13                  As an example, on Page 4 of the policy,  
14          number one under Principles, it states, it is the  
15          Board's position that from a water quantity and  
16          quality standpoint, the source of power plant  
17          cooling water should come from the following  
18          sources, in this order of priority, depending on  
19          site specifics such as environmental, technical  
20          and economic feasibility.

21                  Staff found that after careful analysis  
22          of the policy, it was unable to determine that  
23          this policy required staff to recommend dry  
24          cooling or any other alternative water supply  
25          source. Since staff found no environmental

1 impacts that needed to be mitigated, it did not  
2 require dry cooling as part of its CEQA analysis,  
3 either.

4 CURE has had ample time and opportunity  
5 to raise any concerns about environmental impacts  
6 before this reply brief. It's disingenuous of  
7 CURE to raise this issue now, claiming that it  
8 somehow has -- has something to do with staff's  
9 interpretation of this policy. CURE's argument of  
10 environmental impacts in its reply brief is a  
11 straightforward CEQA argument, it's unsupported by  
12 evidence in the record, and without an expert  
13 witness providing testimony under oath.

14 For the reasons just stated, and those  
15 in our brief, staff respectfully requests that the  
16 Committee strike those portions of CURE's reply  
17 brief alleging significant environmental impacts  
18 as remarked in our attachment to our brief.

19 HEARING OFFICER WILLIAMS: Thank you,  
20 counsel.

21 Ms. Poole.

22 MS. POOLE: Thank you.

23 There's only one thing that's really  
24 important in addressing these motions, and that is  
25 Commission Rule 1212C, which provides every party



1 to a proceeding the right to rebut evidence  
2 presented against it.

3 Staff presented brand-new testimony with  
4 its opening brief. We've not objected to the  
5 introduction of that testimony, and we think it's  
6 helpful for the Committee to have a full record  
7 before it of all the parties' positions. But we  
8 do, under the Commission's rules, have an  
9 unequivocal right to respond to that brand-new  
10 testimony. That's all we've done in our reply  
11 brief.

12 The other parties are arguing that staff  
13 should be allowed to provide new testimony, and  
14 nobody else should be allowed to respond to it.  
15 Well, that's not what the Commission's rules  
16 require. That would unfairly tilt the playing  
17 field in favor of one party, and the Commission's  
18 rules are designed to provide a level playing  
19 field.

20 Staff has submitted three versions of  
21 water testimony; one with the FSA filing date,  
22 one on March 2nd, I believe, and one set with its  
23 opening brief. All we have done is try to respond  
24 in as quick a manner as we could, and within a  
25 week in each case, to the new testimony that staff

1 has presented in each one of those three filings.

2 I believe Mr. Miller said that the only  
3 thing that was new in staff's testimony was a  
4 legal conclusion drawn from previously filed  
5 testimony. Well, I don't agree with that at all.  
6 Staff's testimony laid out a brand-new argument  
7 which for the first time stated its view that the  
8 requirements of Policy 75-58 don't apply unless  
9 significant environmental impacts from the use of  
10 water have been identified.

11 Well, we had identified some impacts  
12 before. We didn't raise them because we didn't  
13 feel that it was important enough in the context  
14 of these other proceedings. But once those  
15 impacts became tied to Policy 75-58, we did feel  
16 the need to address them. And we didn't have an  
17 opportunity to address them before that new  
18 testimony came in, which was filed with staff's  
19 opening brief.

20 Staff has also raised some concerns  
21 about official notice, because we didn't provide a  
22 witness to lay a foundation, and about being  
23 unable to cross examine a witness. Well, we've  
24 brought a witness with us today who can provide  
25 that foundation and who will be available for

1 cross, if that's a concern.

2 One other issue, which Mr. Miller  
3 raised, was that the Committee has already ruled  
4 that 75-58 calls for a different inquiry under  
5 CEQA, and has essentially rejected staff's  
6 argument in its testimony filed with its opening  
7 brief. And we agree with that ruling. However,  
8 to take the step that he's asked the Committee to  
9 take, and only strike our testimony to rebut that,  
10 leaves the Commission with an incomplete record.  
11 It leaves the staff's arguments on the record,  
12 with nothing to rebut it.

13 And the Committee is not just creating a  
14 record for itself here, it's also creating a  
15 record for review. And it's important to have all  
16 of that information in the record so subsequent  
17 decision-makers can see what the arguments were,  
18 if need be.

19 We also have explained in our brief that  
20 staff's motion to strike is overly broad. There  
21 are -- approximately half of the sections that  
22 they want to strike are citations to information  
23 that's already been introduced into the record.  
24 Other things, such as Federal Register notices and  
25 citations to the testimony in our opening brief,

1       which they have not objected to, are also included  
2       in what they want to strike, and nobody's provided  
3       any arguments for striking that information.

4               Thank you.

5               HEARING OFFICER WILLIAMS:   Is there  
6       anything further?

7               MR. MILLER:   I would just like to say  
8       that not only is there nothing new, there's  
9       nothing brand-new.   And what there is is late, and  
10      real late, in terms of submitting testimony on  
11      water supply.   And that's a simple,  
12      straightforward fact.

13              What we're asking for maybe seems a  
14      little radical, compared to what has happened in  
15      most other proceedings, in terms of striking a  
16      brief.   But what we've got is a radical departure  
17      from the rules of the road here.   We're following  
18      the rules, staff has, we have, and we think that  
19      CURE should be required to follow them just as  
20      well as we are.

21              And if we go into this again, contrary  
22      to what we discussed at the hearing about the  
23      narrow topics that we were going to be dealing  
24      with in the reply briefs, in the briefs, and at  
25      this hearing, if we had to have this hearing,

1 we're essentially redoing water. And I would just  
2 ask you to -- to take that step, if you do, very  
3 carefully, because I think that, in terms of a  
4 precedent, it sets a bad precedent to have a  
5 proceeding where by stratagem of latching on to a  
6 legal argument and a reply brief, a party is  
7 essentially allowed to come in and put on a new  
8 case that they had every opportunity and right to  
9 do before.

10 And whether there was notice or not of  
11 the legal significance of -- of an area  
12 potentially in dispute, we are supposed to sit  
13 here and provide our best judgment on the facts  
14 when they come up. The facts came up on water  
15 supply on March 9th, and before, and that was the  
16 time to provide our input and testimony.

17 Thank you.

18 HEARING OFFICER WILLIAMS: Thank you.

19 Anything further from staff?

20 MS. WILLIS: I would just add that CURE  
21 discusses our three versions of testimony as  
22 though that somehow they're different, or the  
23 conclusions are different. The conclusion was the  
24 same. Staff found no significant environmental  
25 impact for the water supply, and did not recommend

1 dry cooling on that.

2 And also, staff did look at 75-58. CURE  
3 continually says that we either ignored it or  
4 somehow, you know, we've just -- we've done  
5 something different. And we actually haven't.  
6 We've looked at the policy, we re-looked at the  
7 policy after Commissioner Moore's request, and we  
8 still came up, you know, we tried to provide more  
9 analysis, and we that in the form of testimony  
10 that was attached to our brief, so it was really  
11 clear what was testimony and what was legal  
12 argument.

13 And I do believe that our -- what we've  
14 put in our brief, in our opening brief, was legal  
15 argument, and is not anything new, and it's not  
16 new testimony that CURE needs to respond to. CURE  
17 did have ample time to respond to that issue of  
18 significant environmental impact, and they did not  
19 choose to do that until what we feel is late.

20 HEARING OFFICER WILLIAMS; Ms. Poole.

21 MS. POOLE: Thank you.

22 Mr. Miller keeps creating sort of a  
23 slippery slope argument here, that if the  
24 Commission allows this here, briefs from here on  
25 out will be filled with all sorts of new

1 information. We view this as a very unique  
2 situation. Opening -- or, new testimony came in  
3 with opening briefs in this case. That's -- I've  
4 not encountered that before in a Commission  
5 proceeding, and I imagine it will only happen in  
6 rare situations. And it's in that situation where  
7 we feel we must have the opportunity to rebut that  
8 new evidence.

9 So we're not arguing that briefs can  
10 contain across the board all sorts of new  
11 information here.

12 Ms. Willis raised the point that staff's  
13 conclusion that the water supply will not create  
14 significant environmental impacts has not changed  
15 in their three sets of testimony, we don't  
16 disagree with that. But what has changed in the  
17 last piece of testimony which they filed, was how  
18 they used that conclusion to argue that Policy  
19 75-58 didn't call for any -- any action on the  
20 part of the Commission.

21 And, finally, Mr. Miller also said that  
22 everybody's followed the rules but us. Well, I  
23 don't agree with that. I think that staff  
24 testimony went well beyond the scope of what is  
25 economically sound, staff's testimony that was

1 filed with its opening brief, and that's what  
2 we're attempting to respond to here.

3 HEARING OFFICER WILLIAMS: Thank you.

4 PRESIDING MEMBER MOORE: Okay. With  
5 that, we're going to call a ten-minute recess.  
6 We'll be back here at ten to eleven. We're going  
7 to use the caucus room, and discuss this among  
8 ourselves.

9 So we'll go off the record.

10 (Off the record.)

11 PRESIDING MEMBER MOORE: We've been  
12 considering, in a Committee caucus, the question  
13 of the motions that were made before us, as well  
14 as the procedural matters in conducting the  
15 hearing today.

16 First, with regard to the motions, let  
17 me tell you in a fairly anticlimactic way, I'm not  
18 going to rule on the motions today, and I'm going  
19 to take them under submission. It's clear to us,  
20 and I'm sure it's painfully clear to all the  
21 parties, that the impact of the ruling on those  
22 motions is likely to have fairly far-reaching  
23 effects on other cases and other Commission  
24 actions. So it should serve to indicate that  
25 we're taking the motions and the responses very



1 seriously, and want to be very careful about the  
2 rulings that -- that we make.

3 I expect that you will see the ruling on  
4 that within the next ten days. That's my  
5 intention. So we'll have that out as -- as soon  
6 as possible.

7 Should we rule against the motions,  
8 there will be an opportunity to present testimony.  
9 We'll make -- we'll make time available later on  
10 to deal with that, so I'm, in a sense I'm  
11 reserving the opportunity for Intervenor to  
12 provide testimony, should the ruling go in  
13 their -- in their favor.

14 With regard to today, I'm going to  
15 bifurcate the interests of today and start with  
16 the briefs that were submitted, and we'll ask for  
17 presentations and then allow cross examination on  
18 the -- on the briefs. And then we'll go into the  
19 rest of the evidentiary hearing following that.

20 If you brought -- well, let me back up.  
21 I want to limit the discussion today to what was  
22 submitted in the briefs. I want to make sure, and  
23 I ask for your help, to not broaden this out to  
24 deal with areas that were not contained in the  
25 briefs as submitted. So that -- that will be the

1 range of our allowed testimony today. That's -- I  
2 want to preserve the right to not expand beyond  
3 what is -- what I called for in the request for  
4 the briefs, and what was actually submitted that  
5 is in response to what I called for.

6 So if you broadened out beyond that,  
7 don't bring it up today. Should the -- should the  
8 motion allow -- or, I'm sorry, should the ruling  
9 allow it at a later date, then we'll reopen it and  
10 go back to it.

11 So I only want, in the case of dealing  
12 with the briefs, I only want testimony that deals  
13 with them as I asked the question, not to the --  
14 not to the broader questions that were implied in  
15 the discussion we had before we went off to  
16 caucus. So I'll simply ask for your respect in  
17 that, and we'll try and have a thorough discussion  
18 of that as the questions were asked.

19 Again, I think I've made it pretty clear  
20 the way we'll proceed, as far as including any  
21 additional or expansive testimony, or an  
22 interpretation, a broader interpretation of what I  
23 might have meant by my -- my request, should the  
24 ruling come down that way.

25 And then we'll close that part, and take

1 up the evidentiary matters for today.

2 So with that, let me -- I'm sorry.

3 MR. MILLER: I cannot help but ask a  
4 question.

5 PRESIDING MEMBER MOORE: Gee, and I was  
6 just about to turn the floor over to you, too.  
7 I --

8 MR. MILLER: Well, I apologize for  
9 interrupting, then.

10 I'm a little confused. I thought I  
11 had -- was with you, until just a moment ago.  
12 We're going to address the matters that you  
13 requested briefing on first, which was -- I'm  
14 trying to feed this back to you, with your  
15 permission.

16 PRESIDING MEMBER MOORE: Always --  
17 always a good thing to do.

18 MR. MILLER: And that would relate to  
19 the topics that were discussed in the colloquy at  
20 the end of the last hearing relating to  
21 economically unsound, and cost data on wet versus  
22 dry. Is that correct?

23 PRESIDING MEMBER MOORE: Correct.

24 MR. MILLER: Now, when you say then we  
25 would bifurcate it and have the rest of the

1       evidentiary hearing, I'm a little confused,  
2       because to me that is the evidentiary hearing that  
3       we were planning to hold, and I don't understand  
4       what other issues beyond that are -- are open.  
5       Until you've ruled on your motion, it seems to me  
6       that that's --

7               PRESIDING MEMBER MOORE:   Yeah, you're  
8       correct.  It --

9               MR. MILLER:  -- there's no bifurcation,  
10      in other words.

11              PRESIDING MEMBER MOORE:  Well,  
12      bifurcation in the sense that any broader issues  
13      that we need to discuss will come up after  
14      that's -- that's done.  So if we have other issues  
15      that we wish to pursue, in terms of further  
16      direction or other open matters, I understand  
17      there may be other -- other broader testimony,  
18      that'll all occur after the response.

19              MR. MILLER:  I guess what I'm planning  
20      to do, if -- just state it now -- is it seems that  
21      until the motions are ruled upon, the appropriate  
22      topic for today would be economically unsound and  
23      the cost questions that you raised at the last  
24      hearing.  And when other -- and that's what we're  
25      intending to cover.  And in the event that other

1 parties across the table here, Kate, would get  
2 into other matters beyond that prior to your  
3 ruling on the motions, I would -- my presumption  
4 is that I would object.

5 PRESIDING MEMBER MOORE: Fine. And,  
6 however, there -- there may be -- often we deal  
7 with items like that under the topic of  
8 housekeeping, where we start to talk about next  
9 steps --

10 MR. MILLER: Oh.

11 PRESIDING MEMBER MOORE: -- the  
12 hearings, and I want to -- I want to make it clear  
13 that some of the matters that may follow on  
14 procedurally, with regard to the future ruling,  
15 put them over, we'll deal with them later today.

16 MR. MILLER: I understand now. Thank  
17 you.

18 PRESIDING MEMBER MOORE: Mr. Miller, you  
19 have the floor.

20 MR. MILLER: Okay. Give me just a  
21 moment to shift gears, if you would.

22 HEARING OFFICER WILLIAMS: Mr. Miller,  
23 would you also mark any exhibits that you have at  
24 this time?

25 MR. MILLER: Yes. I'll be happy to do

1       that.  If I can get the right file here.

2               I guess this would be a point of order,  
3       or something like that.  Could I address the  
4       counsel for the staff a moment?

5               Did you want to propose any change of  
6       the order?

7               MS. WILLIS:  Well, if it would please  
8       the Committee, it would -- it would probably serve  
9       our representative from the State Water Board to  
10      have her provide her testimony first, if -- unless  
11      there's any objections.

12              PRESIDING MEMBER MOORE:  Is there any  
13      objection to that?  I realize there may be some  
14      time constraints.

15              I'm happy to do that.  Let's review the  
16      bidding on this.  The State Water Board is  
17      responding to a letter that was sent by CURE, if  
18      I'm correct.  It was --

19              MS. WILLIS:  Actually, she will be --  
20      today she'll just be sponsoring her e-mail that's  
21      attached to --

22              PRESIDING MEMBER MOORE:  Oh, I'm sorry.  
23      We do have that.

24              MS. WILLIS:  -- our brief.

25              PRESIDING MEMBER MOORE:  All right.

1 MS. WILLIS: The letter that we just  
2 docketed today was something that we just received  
3 yesterday.

4 PRESIDING MEMBER MOORE: Okay. Fine.

5 HEARING OFFICER WILLIAMS: Staff, why --  
6 why don't, then, you mark the -- the supplemental  
7 testimony as 19-C, and Ms. Vassey's memo as part  
8 of that exhibit, and we can decide later if we  
9 want to mark it separately or not.

10 (Thereupon, Exhibit 19-C was marked  
11 for identification.)

12 PRESIDING MEMBER MOORE: So, Ms. Vassey,  
13 maybe you could come to the podium, and we'd like  
14 to ask you to be sworn in as a witness, a  
15 formality for our proceedings.

16 (Thereupon, Sheila Vassey was, by the  
17 reporter, sworn to tell the truth, the  
18 whole truth, and nothing but the truth.)

19 TESTIMONY OF

20 SHEILA VASSEY

21 called as a witness on behalf of the Commission  
22 Staff, having been first duly sworn, was examined  
23 and testified as follows:

24 DIRECT EXAMINATION

25 BY MS. WILLIS:

1           Q     Could you please state your name for the  
2     record?

3           A     Yes. My name is Sheila Vassey.

4           Q     And what is your job title?

5           A     I am a Senior Staff Counsel at the State  
6     Water Board.

7           Q     And how long have you been there?

8           A     I have been there for 20 years.

9           Q     And could you briefly describe your job  
10    responsibilities?

11          A     Yes. I am in the specialist class, and  
12    I advise the State Board's Basin Planning Unit,  
13    the Freshwater Standards Unit, the Ocean Standards  
14    Unit, and in addition, as do all of the attorneys  
15    in the Water Quality Section, I handle petitions  
16    for review of regional water board actions. And  
17    then, in addition, respond to specific requests  
18    from my boss, the Chief Counsel.

19          Q     In Appendix B to the testimony, in  
20    Attachment A, is a copy of an e-mail. Do you have  
21    that in front of you?

22          A     Yes, I do.

23          Q     And did you create this e-mail?

24          A     I did.

25          Q     And could you please state the date of



1 the creation?

2 A It's dated March 17th, 2000.

3 Q And is that the correct date, to the  
4 best of your recollection?

5 A Frankly, I don't remember the date.

6 Q Do -- is there anything other than the  
7 docket stamp, or the marking as Appendix B, other  
8 than those markings does this e-mail appear to  
9 have been altered in any way?

10 A No, it doesn't.

11 Q Could you please briefly describe the  
12 contents of that e-mail?

13 A Sure. Before I do that, I would like to  
14 point out that there is a typo. The second  
15 sentence refers to Principle 7, and it should be  
16 Principle 2.

17 Basically, Joe O'Hagan asked me if I  
18 knew if the State Board had ever interpreted the  
19 term economically unsound, and so I agreed to  
20 research our files to see if I could find any --  
21 any orders or memos on that topic.

22 We have a card file in the library, so I  
23 went to the card file, and I went through it. And  
24 I was not able to find anything, no State Board  
25 orders or memos that discuss the phrase

1       economically unsound. So that's basically what  
2       the e-mail message says.

3               I did come across some old memos from  
4       the 1980's, that reference the Policy 75-58, but  
5       they don't -- don't discuss the term economically  
6       unsound. I did then ask one of our economists if  
7       he had an opinion on what the phrase meant, and he  
8       said basically it wasn't a term used by  
9       economists, and that it was subjective, and it  
10      would -- as the e-mail indicates, he said it would  
11      imply some kind of balancing of costs and benefits  
12      which are not spelled out in our policy.

13              And so that's -- that was about it. I  
14      really was not able to come up with information to  
15      -- to provide light on the topic.

16              MS. WILLIS: Thank you.

17              Did you -- do you want to open her up  
18      for cross examination on this?

19              PRESIDING MEMBER MOORE: I think it's  
20      probably appropriate, because it will allow her to  
21      go back to the other agency, and go back to work.  
22      So let me offer her as a witness for cross  
23      examination.

24              Mr. Miller, any questions?

25      ///

1       ///

2                               CROSS EXAMINATION

3                       BY MR. MILLER:

4               Q     I have only one question, which is if  
5       Ms. Vassey could comment on the extent to which  
6       the policy -- and it sounds like, from the  
7       previous statement, I know that the answer is  
8       going to be not very much -- but to what extent  
9       has the policy been applied by the Board since its  
10      adoption in 1975?

11              A     Well, to the best of my knowledge, I  
12      don't -- I could not come across an order, as I  
13      said, in which -- discussing the policy, so it  
14      does not appear that it's been applied very much.

15                       MR. MILLER:   Thank you.

16                       PRESIDING MEMBER MOORE:   If -- if at  
17      all.

18                       THE WITNESS:   Pardon?

19                       PRESIDING MEMBER MOORE:   If at all?

20                       THE WITNESS:   If at all.   The memos, as  
21      I said, in the eighties, discuss the policy in  
22      relationship to some projects that were proposed  
23      at the time.   Apparently those projects were never  
24      finished.   And so that appeared to be the end of  
25      that story.

1 HEARING OFFICER WILLIAMS: Thank you,  
2 Mr. Miller.

3 Staff? No other questions.

4 CURE?

5 MS. POOLE: Yes.

6 CROSS EXAMINATION

7 BY MS. POOLE:

8 Q Ms. Vassey, can you tell me whether the  
9 State Board has jurisdiction to determine whether  
10 a use is a beneficial or an unreasonable use of  
11 water?

12 MS. WILLIS: I'd like to limit the scope  
13 of the questions to her memo, the e-mail that she  
14 sent. If there's any questions regarding that.  
15 Unless there's --

16 PRESIDING MEMBER MOORE: Well, I -- I  
17 think that's a fair -- a fair request.

18 Ms. Poole, you're -- let's keep it to  
19 the memo. I understand where you're going, but I  
20 think if you stay with -- with the memo you're  
21 going to be able to get the answer that you're --  
22 that you're after. If you stay -- you're trying  
23 to tease apart the term, and so --

24 MS. POOLE: Well, actually, I'm  
25 concerned. There's been a lot of discussion in

1       this case about what jurisdiction the State Board  
2       has and does not have, and I thought Ms. Vassey  
3       could shed some light on that for us.

4               PRESIDING MEMBER MOORE: I think that's  
5       fair. Why don't you -- what jurisdiction do you  
6       have?

7               THE WITNESS: The State Board has  
8       statutory authority to investigate whether a use  
9       of water is -- is a waste or unreasonable use of  
10      water. In general.

11              PRESIDING MEMBER MOORE: Thank you.

12              Ms. Poole?

13              BY MS. POOLE:

14              Q     Does the State Board have any special  
15      jurisdiction over State Water Project water?

16              A     I don't know the answer to that.

17              Q     Thanks.

18              A     I don't work in the water rights areas.

19              Q     Can you tell us whether the full Board  
20      has authorized your attendance here today?

21              A     I don't believe so. I don't think that  
22      I -- I discussed the request with my immediate  
23      supervisor. I don't know whether he talked to all  
24      of the Board Members or not.

25              PRESIDING MEMBER MOORE: I'm not sure --

1       why would that matter?

2               MS. POOLE: Well, I'm trying to discern  
3       who Ms. Vassey is here speaking on behalf of.

4               PRESIDING MEMBER MOORE: I -- I  
5       anticipate she was a resource, a technical legal  
6       resource for us, and -- and I have encouraged her  
7       participation on that basis.

8               MS. WILLIS: That's correct.

9               PRESIDING MEMBER MOORE: There's no --

10              MS. WILLIS: She's not --

11              PRESIDING MEMBER MOORE: -- there's  
12       no -- there's not a policy matter that's being  
13       presented.

14              MS. WILLIS: Right. And she is not here  
15       speaking on behalf of the Water Board, the entire  
16       Board, as --

17              PRESIDING MEMBER MOORE: Well, it's --

18              MS. WILLIS: -- authorized Board.

19              MS. POOLE: Okay.

20              PRESIDING MEMBER MOORE: It wouldn't  
21       be -- it wouldn't be relevant for her to be here  
22       in that capacity, in any case.

23              MS. POOLE: All right. That's all the  
24       questions I have. Thank you.

25              PRESIDING MEMBER MOORE: Thank you very

1 much.

2 MS. WILLIS: Thank you.

3 PRESIDING MEMBER MOORE: And you're  
4 dismissed, I suppose. Thank you for your  
5 participation.

6 All right. With that, then now I'll  
7 turn back, and Mr. Miller.

8 MR. MILLER: Okay. I think when we left  
9 off, Mr. Williams had asked me if we're marking  
10 any exhibits. And what we would like to offer is  
11 a -- the table that was included in our opening  
12 brief, that was in Attachment Roman numeral I to  
13 that brief, which was entitled Table A, Wet versus  
14 Dry Cooling. And we made copies, reproduced that  
15 particular table of the opening brief for Mr.  
16 Rowley to refer to in his brief testimony on the  
17 topic.

18 So I have copies that I will --

19 HEARING OFFICER WILLIAMS: I believe  
20 that's next in order, Number 40.

21 MR. MILLER: I think there -- there was  
22 a little issue, wasn't there, between 40 and 39,  
23 and I think that it's maybe 41.

24 MS. POOLE: I -- that was my confusion.  
25 I think 40 is correct.

1                   MR. MILLER: Okay. So it is 40. All  
2 right. I will distribute it.

3                   HEARING OFFICER WILLIAMS: Thank you.  
4                   (Thereupon, Exhibit 40 was marked  
5 for identification.)

6                   MS. POOLE: Excuse me, that was Table A?

7                   MR. MILLER: Yes.  
8                   (Pause.)

9                   MR. MILLER: All right. I'm going to  
10 call upon Mr. Joe Rowley, who was previously sworn  
11 as a witness in this matter, to cover the matters  
12 that were included in Attachment I, as I  
13 described, to our opening brief. And this was in  
14 response to Commissioner Moore's direction to  
15 provide additional information regarding cost.

16                   You may recall that he presented  
17 information on that topic at March -- the March  
18 9th hearing, and -- Mr. Rowley did that at that  
19 time, and that was in response to information  
20 filed with CURE's supplemental testimony filed on  
21 March 6th, and received by us on March 7th, just  
22 prior to the hearing. So the intention was to  
23 respond, to clarification, and provide a little  
24 fuller analysis.

25                   So with that introduction, I'll just



1       begin asking some questions here of Mr. Rowley.

2                               TESTIMONY OF

3                               JOSEPH ROWLEY

4       called as a witness on behalf of the Applicant,

5       having previously been duly sworn, was examined

6       and testified further as follows:

7                               DIRECT EXAMINATION

8                               BY MR. MILLER:

9               Q     Mr. Rowley, you previously testified on  
10       cost of wet and dry cooling on March 9th; correct?

11              A     Yes, I did.

12              Q     And we submitted -- the Applicant  
13       submitted additional information in its opening  
14       brief dated April 4th, in that regard. Is that  
15       correct?

16              A     That's right.

17              Q     And that included Attachment I -- excuse  
18       me, Roman numeral I.

19              A     Yes.

20              Q     And at this point I'll just ask you to  
21       sponsor that as an exhibit in this matter, and ask  
22       if it is based upon your professional -- best  
23       professional judgment.

24              A     Yes, it is.

25                      MS. POOLE: I'm sorry to interrupt. Is

1 Attachment I Exhibit 40, or just Table A?

2 MR. MILLER: Just Table A, at this  
3 point. Although you raise a good point. And I  
4 guess that's part of the confusion that we find  
5 ourselves in with regard to submitting testimony  
6 and briefing at the same time. And, really, we  
7 should sponsor all of Attachment I as -- as an  
8 exhibit, so that it's all in evidence.  
9 Unfortunately, I didn't bring 20 copies of that,  
10 but we all, of course, have received it. Prior to  
11 this hearing it's been docketed.

12 PRESIDING MEMBER MOORE: Any -- do you  
13 have any objection to that? That might make it  
14 easier and cleaner. Actually, your point is a  
15 good one.

16 MS. POOLE: I think that would make more  
17 sense.

18 PRESIDING MEMBER MOORE: Staff, do you  
19 have any objection to that?

20 MS. WILLIS: None.

21 PRESIDING MEMBER MOORE: Let's -- let's  
22 do it that way. It's cleaner, and it puts it all  
23 in one place. We do have copies of that from  
24 previously filed and docketed material, so  
25 let's -- that will be -- it will all be 40.

1 Without objection, that will all be Exhibit 40.

2 MR. MILLER: Okay. Very good.

3 PRESIDING MEMBER MOORE: Okay.

4 MR. MILLER: All right. With that  
5 introduction, and I would just point out also that  
6 -- that Attachment I did include a declaration by  
7 Mr. Rowley swearing to its authenticity, and that  
8 it was submitted on --

9 PRESIDING MEMBER MOORE: All right.

10 MR. MILLER: -- that it was true based  
11 upon his best information.

12 BY MR. MILLER:

13 Q So, what I'd like you to do now, Mr.  
14 Rowley, is to summarize the information provided  
15 in the supplemental -- Attachment I, and in Table  
16 A, as we've distributed it this morning, for the  
17 benefit of the Committee.

18 A Well, in responding to your request,  
19 Commissioner Moore, we started first by looking at  
20 the two scenarios presented by CURE at the March  
21 9th hearing. And --

22 PRESIDING MEMBER MOORE: Do you want to  
23 briefly describe your understanding of those  
24 scenarios, just synoptically?

25 THE WITNESS: Yes. My understanding is

1       that one scenario represented the proposed  
2       project, and on Table A that would be the far  
3       left-hand column.

4               PRESIDING MEMBER MOORE:   That's Wet,  
5       WKWD, Wells.

6               THE WITNESS:   Yes.

7               PRESIDING MEMBER MOORE:   Thank you.

8               THE WITNESS:   So the -- the -- on Table  
9       A, the group of three columns on the left is  
10      essentially a recitation of CURE's information.

11              The second alternative described by CURE  
12      is what I call the CURE alternative scenario. One  
13      problem that we had in looking at that scenario  
14      and trying to tease out just the effective wet  
15      versus dry cooling is that there were two other  
16      variables changed in addition to going from wet to  
17      dry. And those two other variables were that the  
18      water supply changed from West Kern to Tulare; in  
19      other words, from the proposed water source to a  
20      brackish water source.

21              And the second change, in addition to  
22      wet versus dry, was the method of dealing with  
23      wastewater. The wastewater in the CURE  
24      alternative scenario was dealt with by means of  
25      zero discharge and disposal of solid waste.

1                   So our first task was to create a pair  
2                   of scenarios that we could use to clearly respond  
3                   to your request; that is, what is the effect of  
4                   wet versus dry. And in so doing we created a  
5                   third scenario, Scenario 3 -- and, by the way,  
6                   I've identified these as the proposed project is  
7                   Scenario 1, the CURE alternative scenario is  
8                   Scenario 2.

9                   And the -- the third alternative, that  
10                  I'll describe now, is Scenario 3, that being dry  
11                  cooled, but the ancillary water uses are supplied  
12                  with West Kern water, and the wastewater disposal  
13                  is by disposal wells. So Scenario 3, as compared  
14                  to the proposed project, just changes from wet to  
15                  dry, in terms of the cooling method, but leaves  
16                  alone the water supply for ancillary uses, leaves  
17                  that West Kern and leaves the wastewater disposal  
18                  method as proposed.

19                  BY MR. MILLER:

20                  Q     I'm going to interrupt just for a second  
21                  and ask a question. Could you please just, for  
22                  the Committee's benefit, describe ancillary uses  
23                  so that we're all -- we understand what that  
24                  means?

25                  A     Sure. The power plant's main water use

1 at the proposed project is for the wet cooling  
2 tower. However, there are other water uses, those  
3 being boiler makeup, and evaporative cooler makeup  
4 for the gas turbines, various other smaller water  
5 uses. But the plant still requires water even if  
6 it's, quote, unquote, dry cooled.

7 So by comparing Scenarios 1 and 3, we  
8 get a clear picture as to what the cost is of  
9 going from wet cooling to dry cooling.

10 I've also presented information on  
11 Scenarios 1 versus 2, to get a clear picture on a  
12 comparison of the proposed project to the CURE  
13 alternative scenario. And looking at Table A, the  
14 comparison between wet versus dry, that is  
15 Scenario 1 versus Scenario 3, is presented on the  
16 right-hand side, that group of three columns on  
17 the right. The shaded column on the far right  
18 presents the change in cost.

19 And likewise, the middle group is  
20 comparing the proposed project with the CURE  
21 alternative scenario, and showing an analogous  
22 delta there.

23 So the first thing I would like to note  
24 is that under the cooling system, that is the part  
25 of the plant that has to do with how the steam

1 exiting the steam turbine is condensed to water,  
2 that is the main cooling need of the plant. That  
3 system, which I'm terming here the cooling system,  
4 has a cost associated with it for dry cooling and  
5 for wet cooling.

6 And this is something that our company  
7 has been interested in for some time. We -- we've  
8 run across prospective projects where water may  
9 not be available. It's tough to make project  
10 work, but since each project is distinct in terms  
11 of its economic circumstances, we sometimes  
12 evaluate a project that might be dry cooled. And  
13 so we have a database for that purpose. And Black  
14 and Veatch last September developed capital costs  
15 that we use in pro formas and other economic  
16 analyses.

17 And the number that you see in a square  
18 box in the delta column, both in the comparison  
19 between one -- Scenario 1 and 2 and 1 and 3, that  
20 delta is \$18.3 million. That's a number that's  
21 directly out of our database developed by Black  
22 and Veatch for the purpose of evaluating the  
23 economic feasibility of projects.

24 So that number was not developed in  
25 response to your request, Commissioner Moore, but

1 was something that we had in our database.

2 The next number that's encircled in a  
3 square box essentially gives the overall project  
4 change in capital costs. So in the far right-hand  
5 column, looking at just the cooling system change  
6 of \$18.3 million, that drops to \$14.1 million when  
7 all other project considerations are taken into  
8 account. Those being factors involving capital  
9 costs of the water supply, water treatment, and  
10 wastewater disposal.

11 Likewise, in the comparison with the  
12 CURE alternative scenario, the \$18.3 million goes  
13 up to 19.4 when those other factors are included.  
14 That is, those other capital cost factors.

15 The next step is to annualize that cost.  
16 That is, annualize the capital cost, and then add  
17 in other annual costs such as O&M costs, and also  
18 the lost electric revenues, in order to obtain a  
19 total annualized cost. Then the total annualized  
20 cost is presented as a -- a 20 year net present  
21 value.

22 The 20 year net present value of the wet  
23 versus dry case, that is Scenario 1 versus  
24 Scenario 3, is \$19.7 million. And the similar  
25 change in cost for Scenario 2, the CURE



1 alternative scenario, is \$29.6 million more  
2 expensive than the proposed project.

3 PRESIDING MEMBER MOORE: And you  
4 contrast that with the delta in column 1 of 16.4?

5 THE WITNESS: I -- a lot of the numbers  
6 in column -- the first group of three columns are  
7 sort of inexplicable to me. I -- they're not my  
8 numbers, but if -- well.

9 PRESIDING MEMBER MOORE: So basically,  
10 Mr. Rowley, what you did was to take the numbers  
11 that were available to you and then use them in  
12 the same NPV analysis that you did in the other  
13 columns, just using someone else's numbers. So --

14 THE WITNESS: Correct.

15 PRESIDING MEMBER MOORE: -- to the best  
16 of your ability, that's the net present value you  
17 could come up with, given the numbers you had.

18 THE WITNESS: Yes. The 16.4 figure does  
19 not appear in CURE's testimony, but we took their  
20 numbers and ran them through the same analysis  
21 that produced the 29.6 and the 19.7.

22 PRESIDING MEMBER MOORE: Right. Just --  
23 just so that I -- we're understanding, for the  
24 record, basically what you dealt with were  
25 representations of capital cost and O&M that were

1 presented to you. You then ran those through your  
2 own model.

3 THE WITNESS: Right. That's true of the  
4 first three columns there.

5 PRESIDING MEMBER MOORE: Thank you.

6 THE WITNESS: Now, the fact of the wet  
7 case, Scenario 3 being \$19.7 million more  
8 expensive than the proposed project, and likewise  
9 the CURE alternative scenario being \$29.6 million  
10 more expensive, those figures are actually  
11 understated, because the lost electric revenue  
12 figure is understated. And it's understated  
13 because of a simplifying assumption that we made  
14 in producing the lost electric revenue  
15 calculation. That is, we assumed a constant year-  
16 round power output loss of six and a half  
17 megawatts, and that corresponds to a three-  
18 quarters of an inch of mercury backpressure  
19 increase on the steam turbine, plus a little bit  
20 of power for -- additional power for the fans for  
21 the air-cooled condenser.

22 The fact of the matter is that the  
23 relationship between ambient temperature and power  
24 loss is not linear, first of all. The -- for  
25 example, if you go up to three and a half inches

1 of mercury backpressure increase, the -- the power  
2 loss is over 20 megawatts. And that -- that sort  
3 of a power loss would occur on a day such as a hot  
4 summer afternoon, when not only is the power most  
5 in demand, but market clearing prices are highest.  
6 And so we -- we've lost that effect in a  
7 simplifying assumption of high market clearing  
8 prices coinciding with a very substantial loss of  
9 power output.

10 And that -- that concludes my summary of  
11 -- of Appendix -- or Attachment I.

12 BY MR. MILLER:

13 Q Thank you. What I'd like to do now is  
14 ask you, in light of that further analysis, in  
15 addition to the comments you presented at the  
16 March 9th hearing, revisit the issue again of  
17 economic unsoundness, and provide us your opinion  
18 as to the significance of the cost difference that  
19 you've calculated.

20 A I first reiterate my reluctance to  
21 produce information that would expose our  
22 company's business plans or -- or rates, and so  
23 forth.

24 But having said that, I think we do need  
25 to provide some indication as to whether the \$29.6

1 million figure and the \$19.7 million figure is --  
2 is a large number or not. I think on the face of  
3 it, they certainly appear like large numbers. I  
4 would only say that the -- the net present value  
5 of a 500 megawatt merchant power plant, that is  
6 the net present value of the overall project, is  
7 on the same order of magnitude.

8 PRESIDING MEMBER MOORE: So you're using  
9 an NPV 20-year, same 20-year NPV --

10 THE WITNESS: Yes.

11 PRESIDING MEMBER MOORE: -- and your  
12 discount rate is what -- your assumed discount  
13 rate is what?

14 THE WITNESS: Our assumed discount rate,  
15 when we calculate a net present value for our  
16 projects, is our -- our investment hurdle rate,  
17 which is a confidential number.

18 PRESIDING MEMBER MOORE: Okay.

19 THE WITNESS: It's -- it's not widely  
20 distant from the sorts of numbers that we're  
21 seeing on this table.

22 PRESIDING MEMBER MOORE: And so  
23 you're -- you're making the statement, then, that  
24 it is in the same order of magnitude, relative  
25 order of magnitude that these cost differences

1 are.

2 THE WITNESS: Right. So in other words,  
3 if the project were to shoulder the burden of  
4 going to the -- going to dry cooling, the \$19.7  
5 million or the \$29.6 million would be subtracted  
6 directly from the project's NPV, since the  
7 number -- NPV, net present value, since the net  
8 present value is on the same order of magnitude  
9 for the overall project that would tend to drive  
10 the net present value to zero, which means there's  
11 no incentive to do the project. There's no  
12 incentive to go forward with the project. There's  
13 no reason why investors would invest their money  
14 for a net present value that is being driven to  
15 zero.

16 PRESIDING MEMBER MOORE: Thank you.

17 BY MR. MILLER:

18 Q Shifting to a slightly different  
19 subject, Mr. Rowley. You had an opportunity, I  
20 believe, to review CURE's opening brief? That's a  
21 question.

22 A Yes.

23 Q Could you now comment, please, on  
24 information provided in that brief? Or arguments,  
25 I should say, provided in that brief.

1           A     I'd like to just provide an overall  
2     comment.

3                     The -- the conclusion of the analysis  
4     presented in the opening brief is that wet -- is  
5     that dry cooling is somewhat more cost effective  
6     than wet cooling. And I think that we need to  
7     look to the marketplace to -- to test whether that  
8     is a sound conclusion or not.

9                     When developers propose a project,  
10    they're responding to price signals, both in terms  
11    of market clearing prices as well as in terms of  
12    the capital cost of the project. And clearly,  
13    market participants, their -- their reaction to  
14    the market price signals is that the economic  
15    solution is wet cooling, not dry cooling.

16                    That, in other words, that the -- the  
17    solution that makes economic sense, that is the  
18    solution that the free marketplace drives  
19    participants towards, is wet cooling. And since  
20    market participants act in their interest, we can  
21    presume that that's -- that means that wet cooling  
22    is, in fact, more cost effective than dry cooling,  
23    which is -- essentially the CURE conclusion is  
24    totally at odds with what's happening in the real  
25    world.

1           The test of any model is that does --  
2       first of all, does the model reproduce what's  
3       happening in the real world. If it doesn't,  
4       there's something wrong with the model. And I  
5       think that's clearly the case with the CURE  
6       analysis.

7           PRESIDING MEMBER MOORE: Mr. Rowley,  
8       would it be fair to say that your last statement  
9       is contingent on the price of water as a key  
10      variable? For instance, if we said that the price  
11      per unit of water were to increase fivefold, or  
12      tenfold, that, in fact, that single variable  
13      change might make a difference in what you just  
14      said?

15          THE WITNESS: It's true that the price  
16      of water is one of those price signals that's --  
17      that's being responded to when a choice is made  
18      between wet versus dry, and each project has its  
19      own individual economic circumstances. And so, as  
20      I said earlier, there may be a project where, as a  
21      result of looking at all the variables including  
22      the price of water, that the conclusion could be  
23      dry cooling, instead of wet cooling.

24          But what we're saying is that's -- turns  
25      out to be generally not the case in today's market.

1                   PRESIDING MEMBER MOORE: So if I restate  
2                   that, the price of water, as it is in evidence  
3                   today, is not a factor in your decision to  
4                   recommend wet versus dry cooling.

5                   THE WITNESS: It was -- I would say it  
6                   was a factor that was considered, but it was not a  
7                   large enough cost component to drive the equation  
8                   towards dry cooling. And when we look at other  
9                   projects that are similarly -- similarly situated,  
10                  such as La Paloma, they come to the same  
11                  conclusion.

12                 PRESIDING MEMBER MOORE: Mr. Miller.

13                 BY MR. MILLER:

14                 Q     Do you have any comments on the -- and  
15                         maybe this is -- maybe you have already answered  
16                         the question, and you can just say so. On the  
17                         modeling that was presented in the CURE opening  
18                         brief, that is I guess the peace model, or however  
19                         it's referred to there, that attempted to  
20                         calculate a return on investment, or net profit of  
21                         a hypothetical power plant.

22                 A     There are a lot of models available that  
23                         one can use to estimate capital costs, and to  
24                         determine rates of return, and so forth. I don't  
25                         have any comment on the model per se. I think my



1        comments earlier really pertained on the inputs to  
2        the model and how the model is used.  You can make  
3        a model produce any results you want, based on the  
4        inputs and how the model is used.

5            Q     Are those models something that require  
6        experience to apply?

7            A     Absolutely.  It's just as easy to make a  
8        -- a accidental input or use of the model that  
9        results in a invalid conclusion, as it is to do it  
10       purposely.

11          Q     And in your review of the CURE brief and  
12        its conclusion that essentially the addition of  
13        dry cooling would make no significant difference  
14        to the profitability of a power plant, does that  
15        square with the real world?

16          A     I would say that's ludicrous.

17          Q     Finally, with regard to dry cooling,  
18        have you made any analysis or review of the -- as  
19        was done in your testimony to some degree, I  
20        believe, already, at -- but I just ask you to  
21        repeat it, if you need to, regarding the  
22        environmental comparison between wet and dry  
23        cooling.  Are there any aspects of that that you  
24        could comment on as to the impacts of dry cooling?

25          A     Well, dry cooling requires a very large

1 structure, it's a big, boxy structure, would dwarf  
2 all the other structures on the project site.  
3 We're talking about a structure that's roughly 300  
4 feet by 250 feet by 100 feet tall, has typically,  
5 in some of the designs that I've seen -- and these  
6 are mostly just designs because we don't see these  
7 projects constructed in evidence, but rather just  
8 on paper -- could have 30 fans that have  
9 diameters, each one, of over 30 feet. They make a  
10 lot of noise.

11 The visual impact is substantial. The  
12 box, the boxy structure presents a bluff body that  
13 in air quality terms requires that you look at the  
14 effect, the downwash effect of wind passing over  
15 that structure and impacting the stack, resulting  
16 in a very possible effect of having to raise the  
17 stack height with additional visual impacts.

18 You have to have a rectangular flat site  
19 -- which, by the way, we don't have at Elk  
20 Hills -- something on the order of two to three  
21 acres. So you'd have to grade a large area for  
22 that, which would have additional ground  
23 disturbance.

24 Those are some of the additional impacts  
25 that dry cooling has.

1           Q     Would dry cooling require greater fuel  
2     use?

3           A     It would require slightly greater fuel  
4     use because the efficiency of the plant suffers.

5           Q     And would it have an impact on habitat  
6     loss?

7           A     It would, because of the grading  
8     necessary to create a site for the -- for this  
9     large boxy structure.

10          Q     Would you expect -- I guess your comment  
11     on the reasonableness of the scenarios, perhaps,  
12     that even if dry cooling were adopted in the real  
13     world, would you change the water supply for the  
14     ancillary uses that were referred to earlier?

15          A     No. And I think that's very much in  
16     evidence in Table A, in terms of the roughly \$10  
17     million difference between Scenario 2 and Scenario  
18     3. The -- the use of brackish water for the  
19     relatively small ancillary water needs of the  
20     plant really doesn't make practical or economic  
21     sense. You would -- well.

22          Q     All right. And therefore, there would  
23     still be the need for construction of water supply  
24     lines and water disposal lines, even if that water  
25     were just used for the ancillary uses?

1           A     Yes.

2           Q     Would there be any impact on  
3     construction emissions?

4           MS. POOLE:   Excuse me.   I thought we  
5     were supposed to stay out of environmental impacts  
6     here.   If you're going to go into this, I'm going  
7     to go into this.

8           MR. MILLER:   This was only relating to  
9     dry cooling, and we're talking about 75-58 and its  
10    requirement to balance the use of fresh water  
11    against other sources or methods of cooling that  
12    would be environmentally undesirable or  
13    economically unsound.

14          PRESIDING MEMBER MOORE:   You know, Mr.  
15    Miller, I --

16          MR. MILLER:   However, I'm happy to stop.

17          PRESIDING MEMBER MOORE:   I think Ms.  
18    Poole is -- is on the right track.   The question I  
19    asked, and which I really did expect everyone to  
20    adhere to, was the economic issues.   And so I  
21    think she's sustained in that.

22          MR. MILLER:   All right.   Very good.

23          I think with that, we are concluded in  
24    our testimony, Mr. Rowley has concluded, and he's  
25    available for cross examination.

1                   PRESIDING MEMBER MOORE: Any other  
2                   questions from the dais?

3                   Commissioner Pernell?

4                   HEARING OFFICER WILLIAMS: I just have  
5                   one question, clarification. You referred to your  
6                   Exhibit 39 as Appendix -- as Appendix I, that was  
7                   attached to your opening brief.

8                   THE WITNESS: Roman numeral I.

9                   HEARING OFFICER WILLIAMS: Yeah. I  
10                  think it should be Roman numeral 1.

11                  MR. MILLER: My apologies. That's  
12                  correct.

13                  HEARING OFFICER WILLIAMS: Okay. So  
14                  we're clear on that, that it's actually Roman  
15                  numeral 1, instead of I.

16                  PRESIDING MEMBER MOORE: Your witness is  
17                  available for cross examination, then.

18                  MR. MILLER: Yes.

19                  PRESIDING MEMBER MOORE: Staff?

20                  MS. WILLIS: No questions.

21                  PRESIDING MEMBER MOORE: You have no  
22                  questions.

23                  Ms. Poole.

24                  MS. POOLE: Thank you.

25                  CROSS EXAMINATION

1 BY MS. POOLE:

2 Q Mr. Rowley, I believe you just said that  
3 you don't see dry cooled projects constructed in  
4 evidence, and not just on paper. Is Crockett  
5 constructed in evidence and not just on paper?

6 A Crockett's not a merchant power plant.  
7 I was referring to merchant power plants.

8 Q But Crockett is constructed in evidence,  
9 and not just on paper, and is a dry cooled  
10 project.

11 A It is. And in my statement I also did  
12 not say that they are completely not in evidence.  
13 They're generally not in evidence. There are some  
14 -- there are a couple --

15 Q Thank you.

16 A -- dry cooled projects.

17 Q And not all market participants are  
18 selecting wet cooling, are they?

19 A Each market participant is selecting its  
20 cooling method based on the economic circumstances  
21 of the project that they're pursuing.

22 Q And not all market participants are  
23 selecting wet cooling, are they?

24 A It's apparent that -- that in some cases  
25 the circumstances are favoring dry cooling. But

1       they are --

2           Q     Could you just --

3           A     -- very limited.

4           Q     -- give me a yes or no answer to my  
5       question, please?

6           A     Your question is overly narrow.  And it  
7       doesn't --

8           Q     Are there other projects that are  
9       proposing to use dry cooling in the California  
10      market?

11          A     There are, based on the economic  
12      circumstances presented by those projects.

13          Q     So you believe that those developers who  
14      have selected dry cooling intend to make a profit?

15          A     Based on the economic circumstances for  
16      that specific project.  The zone --

17          Q     So the answer is yes, for those specific  
18      projects?

19          A     Right.  But none -

20          Q     Thank you.

21          A     -- none in these circumstances that our  
22      project finds itself in.

23          Q     Thank you.  Is it feasible that a market  
24      participant may select to have lower capital costs  
25      for constructing the plant in exchange for a

1       slight loss of efficiency?

2           A     There's a balancing between efficiency  
3       and capital cost, yes.

4           Q     So the answer is yes?

5           A     (No audible response.)

6           Q     Thank you.

7                     Now, you say --

8                     HEARING OFFICER WILLIAMS:  Mr. Rowley,  
9       if you would just -- we can't hear movements, so  
10      if you respond orally, we would appreciate it.  I  
11      just noticed that you were shaking your head, and  
12      that doesn't appear on the record.

13                    THE WITNESS:  Thank you.

14                    BY MS. POOLE:

15           Q     On page 2 of your testimony, which has  
16      been marked Exhibit 40, you state the cost -- the  
17      cost premiums that you calculate are better  
18      associated with dry cooling, would place the  
19      project at a significant competitive disadvantage  
20      as compared with wet cooled projects, e.g., La  
21      Paloma, located in the mid-California zone.

22                    Did you cost analysis take into account  
23      the current cost advantages that the project has  
24      over La Paloma?

25           A     I'm not -- we look at our project based



1 on what we know about our project. This statement  
2 is based on what I know about the La Paloma  
3 project. To my knowledge, the La Paloma project  
4 enjoys several advantages. I'm not sure -- I'm  
5 not aware of any disadvantages that the La Paloma  
6 project has with respect to ours.

7 Q Did you deduct from your net present  
8 value the calculation of the cost savings that Elk  
9 Hills would achieve from using natural gas from  
10 the Elk Hills field, and avoiding gas  
11 transportation costs, as compared to La Paloma  
12 paying for gas transportation along the Kern-  
13 Mojave pipeline?

14 A The fuel supply for the Elk Hills  
15 project is market based. And that market at that  
16 physical point, there's no reason to believe that  
17 there's a difference between the two projects.

18 Q Will you be paying gas transportation  
19 costs?

20 A We will be paying a market price that's  
21 based on that location.

22 Q But could you answer my question,  
23 please. The AFC presents that one of the  
24 advantages of the project being located where it  
25 is is that you will not incur gas transportation

1 services. Will you be paying gas transportation  
2 costs?

3 A There's no way to answer that question  
4 in a yes or no fashion.

5 Q Will gas be --

6 A Because the --

7 Q -- transported over a commercial  
8 pipeline to the project site?

9 A Generally, no. But the --

10 Q Thank you.

11 A -- but the price that we're paying is  
12 reflective of that location in the gas pipeline  
13 network. So --

14 Q And that location --

15 A -- in essence, that location does carry  
16 a value associated with it that's reflective of  
17 gas transportation.

18 Q Why is that? If you're not transporting  
19 gas, why would it reflect the cost of gas  
20 transportation?

21 A Because Occidental can sell that gas to  
22 someone else at that location. And, for example,  
23 Occidental can sell gas to La Paloma, and there's  
24 no reason for --

25 Q But they'd have to transport it --

1           A     -- Occidental to -- there's no reason --

2           Q     -- to La Paloma.

3           A     -- there's no reason for Occidental to  
4     sell their gas to our project at any lower price  
5     than La Paloma, which is essentially the same  
6     physical location.

7           Q     But gas will not be transported to your  
8     project; is that correct?

9           A     In a physical sense, but from a price --

10          Q     Thank you.

11          A     -- perspective, you're off target.

12          Q     Did you deduct from your net present  
13     value calculation the cost savings that Elk Hills  
14     would achieve from using anhydrous ammonia, as  
15     compared to La Paloma using aqueous ammonia?

16          A     I think that's insignificant. I think  
17     the use of anhydrous ammonia is more of a  
18     practical matter than a cost matter.

19          Q     Do you agree that anhydrous ammonia is  
20     cheaper than aqueous ammonia for a project of this  
21     type?

22                 PRESIDING MEMBER MOORE: Wait, wait,  
23     wait. No, no. It's -- asking him questions about  
24     the model, whether he used it or not, and I'm  
25     assuming that in the last response to Ms. Poole's

1 question you did not take a difference --

2 THE WITNESS: I did not take a  
3 difference because --

4 PRESIDING MEMBER MOORE: -- into  
5 account. So the question of the anhydrous, I  
6 don't -- this is not the place to reopen the  
7 anhydrous versus the other ammonia options. So --

8 MS. POOLE: Commissioner, if I may, the  
9 point I'm trying to get at is that Mr. Rowley in  
10 his testimony has taken the conclusion he has  
11 drawn in his table, and made a definitive  
12 statement about a competitive disadvantage that it  
13 would cost them, as compared to la Paloma. And I  
14 want to make sure that the record is clear that  
15 there are other differences that will affect that  
16 competitive disadvantage calculation in that  
17 comparison.

18 PRESIDING MEMBER MOORE: But to the --  
19 to the extent that you identified factors that Mr.  
20 Rowley may or may not have used in his model, I  
21 think it's a fair -- fair question to ask him did  
22 you include this, did you not. To debate the  
23 relative merits of anhydrous ammonia use in this  
24 context is -- is not appropriate. But to go  
25 through factor by factor where you think there's

1       been an accounting difference in the model,  
2       absolutely is -- is fair game.

3               MS. POOLE: I understand. Thank you.

4               MR. MILLER: May I just offer a  
5       preliminary comment, if we keep going here. Mr.  
6       Rowley did not testify that he made a detailed  
7       comparison with La Paloma. His testimony only  
8       made a general statement that it would -- in  
9       general, dry cooling would put the project at a  
10      competitive disadvantage with wet cooling  
11      projects, for example, La Paloma. He did not  
12      represent that he had made a audit type comparison  
13      line by line with La Paloma.

14              PRESIDING MEMBER MOORE: Well, I think  
15      that's becoming apparent as the questions come  
16      out. But again, he has submitted the results of a  
17      model, and I think, in all fairness, questioning  
18      the derivation of the model is appropriate.

19              THE WITNESS: And perhaps it would help  
20      if I offer that the cost factors that are included  
21      in my calculation are evident in Table A.

22              MS. POOLE: Well, I -- I disagree with  
23      that. That's part of why I am asking you these  
24      questions. There's not enough detail in Table A  
25      for us to answer some of these questions.

1 BY MS. POOLE:

2 Q Let me just cut to the chase here. Your  
3 cost analysis and your statement about the project  
4 being at a competitive disadvantage as compared to  
5 a project like La Paloma, did not examine whether  
6 the Elk Hills project as a whole would be at a  
7 competitive disadvantage compared to the La Paloma  
8 project as a whole, did it?

9 A No, it does not.

10 Q Thank you. Who proposed to locate Elk  
11 Hills where it's located?

12 PRESIDING MEMBER MOORE: Wait. I'm --

13 MR. MILLER: I'm sorry. What -- where  
14 are we going with this?

15 PRESIDING MEMBER MOORE: Yeah, I'm not  
16 understanding how Mr. Rowley would -- either, A,  
17 be involved directly in that decision, or how that  
18 pertains to the brief.

19 MS. POOLE: Well, again, Your Honor,  
20 what we're talking about here, the Applicant keeps  
21 insisting that, first of all, they should just be  
22 compared to other projects in the -- in the mid-  
23 California zone, because there are different  
24 prices that the mid-California zone receives  
25 compared to other zones. And secondly, that it

1       should just be compared to the La Paloma project.

2               This question goes to that assertion.

3       Nobody's required this project to be located in  
4       the mid-California zone.  If it's suffering cost  
5       disadvantages because of that, I want to make it  
6       clear who created that disadvantage.

7               PRESIDING MEMBER MOORE:  Well, I  
8       think -- I think we're going to have to narrow  
9       this down and stay back on the question of the dry  
10      versus wet cooling.  It's already apparent that  
11      there are proprietary numbers that we're -- none  
12      of us are going to get, not me, not you, as far as  
13      the decision-making.  I could refer back just to  
14      the discount rate question.

15              So let's -- let's stay off the broader  
16      term of their decision-making and stay with the  
17      evidence that was submitted in the brief, and the  
18      relevance of that to the case in terms of dry  
19      versus wet cooling.

20              MS. POOLE:  Okay.

21              BY MS. POOLE:

22              Q     On page 5 of your testimony, you state  
23      that the cost analysis -- your cost analysis  
24      assumes constant net output loss of 6.5 megawatts  
25      throughout the year, based on a constant .75

1 inches of mercury increase in steam turbine  
2 backpressure.

3 Is this correlation based on a steam  
4 turbine rating curve?

5 A This correlation is based on  
6 thermodynamic analysis. I'm not -- I'm not  
7 familiar with the term steam turbine rating curve.  
8 That's not a term of art that I'm familiar with,  
9 and I've spent 20 years working with steam  
10 turbines.

11 Q Could you explain how you made the  
12 calculation?

13 A It's easiest to -- to describe in terms  
14 of a Mollier diagram. The Mollier diagram shows  
15 enthalpy versus entropy, and then has other lines  
16 of pressure and so forth on it. And essentially  
17 what expansion through a turbine does is it  
18 approximates isentropic expansion that has an  
19 endpoint at the pressure of the condenser. And  
20 since the endpoint is at a lower position at a  
21 lower backpressure, that means that the enthalpy  
22 leaving the steam turbine is a lower value than it  
23 would otherwise be if the backpressure were  
24 higher.

25 That means that the change in enthalpy



1       between the beginning of the expansion point and  
2       the endpoint is greater when the backpressure is  
3       lower, and it's less when the backpressure is  
4       higher. And that change in enthalpy is directly  
5       proportional to the power output of the steam  
6       turbine.

7           Q     Can you tell me what steam flow you used  
8       in the calculation?

9           A     The steam flow is that presented in  
10      the -- in the material balance tables in the AFC.

11          Q     Okay. In Table A, what are the water  
12      supply -- or, excuse me. Are the water supply and  
13      wastewater pipeline costs for an above ground or  
14      below ground pipelines?

15          A     They're for the pipeline as proposed,  
16      which is partially above ground and partially  
17      below ground.

18          Q     And if you could turn to what's been  
19      marked Attachment 1, non-Roman 1, within Exhibit  
20      40. There's a line marked mechanical BOP. Do you  
21      see that?

22          A     My Attachment 1 has to do with water  
23      treatment chemicals and -- water expense.

24          Q     It's a table that's marked combined  
25      cycle options capital cost estimate. It says

1 Attachment 1 at the top of mine.

2 A Okay. I have it now. I know which page  
3 you're referring to.

4 Q What costs are included under  
5 Alternative 1B in that line marked mechanical BOP?

6 A Those are all the costs associated  
7 within the inside the fence power plant equipment,  
8 not including water treatment and wastewater  
9 treatment. So, for example, that line does not  
10 include the effect of pipelines.

11 Again, this table is from our database  
12 developed by Black and Veatch. This is not a  
13 project specific table, but does show what happens  
14 inside the fence, because the -- the referenced  
15 plant here, in terms of the equipment found inside  
16 the fence, is the same as the Elk Hills project.

17 Q So under Alternative 1B, which is the  
18 dry condenser alternative, that -- that number  
19 there includes the dry condenser?

20 A Yes.

21 Q Does it include the installation of the  
22 dry condenser?

23 A No. That's further down, under  
24 construction contracts.

25 PRESIDING MEMBER MOORE: Well, the table

1 includes it.

2 THE WITNESS: And also --

3 PRESIDING MEMBER MOORE: It's just it's  
4 in a different place in the table.

5 THE WITNESS: Yeah, it's in the table.  
6 This -- this table presents the overall installed  
7 cost of the plant. That's the reason why we found  
8 this table very useful in responding to your  
9 request, Commissioner Moore, because it provides a  
10 very definitive cost estimate for wet cooling and  
11 dry cooling --

12 PRESIDING MEMBER MOORE: Right. So the  
13 answer --

14 THE WITNESS: -- for what's inside the  
15 fence.

16 PRESIDING MEMBER MOORE: Then the answer  
17 to Ms. Poole's question is contained in the box  
18 marked construction contracts, which includes a  
19 non-broken out description of all of the  
20 construction type activities which would include  
21 the installation of the condenser itself.

22 THE WITNESS: Yes. And I would also  
23 include, in a similar vein, the furnish and erect  
24 contracts.

25 PRESIDING MEMBER MOORE: Thank you.

1 BY MS. POOLE:

2 Q I believe you just said this table was  
3 based on generic numbers.

4 A This table is based on a reference plant  
5 that's the same plant as proposed for the Elk  
6 Hills project. For example, you'll note that it  
7 says GE7FA, those are the same turbines as the Elk  
8 Hills project.

9 Q So this plant is -- the plant that  
10 you've calculated the cost for in this table is  
11 the same size as the proposed Elk Hills project?

12 A Yes.

13 Q And would be in the same location.

14 A Yes.

15 Q Could we turn to Attachment 3, please,  
16 to Exhibit 40. Do you have that in front of you?

17 A Yes, I do.

18 Q Attachment 3 is a cost estimate for a  
19 complete water treatment system for Tulare  
20 Groundwater; correct?

21 A Yes.

22 Q And the way the system works is by first  
23 running the water through the softener, then the  
24 reverse osmosis, then the filter, then the  
25 demineralizer. Correct?

1           A     In general terms, yes.

2           Q     So the demineralization system that's  
3     priced in this estimate is sized and designed for  
4     water that has already been softened, treated by  
5     RO, and filtered; correct?

6           A     That's right.

7           Q     Could you tell me the flow rate for each  
8     of these items?

9           A     I don't have that information readily at  
10    hand, but I can tell you that this -- this  
11    scenario is -- requires that the equipment be  
12    based on the maximum water flow rate which would  
13    occur during steam injection. And that would be  
14    on the order of 500 gallons per minute. But I  
15    don't have an exact figure.

16          Q     Thank you. Can you tell me what the  
17    water quality requirements in terms of TDS are for  
18    the boiler feed water?

19          A     The water quality requirements for the  
20    boiler feed water are so pure that it doesn't --  
21    it's not meaningful to express it in TDS. You  
22    normally express it in terms of conductivity.

23          Q     What is that number?

24          A     I don't recall offhand, but essentially  
25    what we're talking about is what a layman would

1 call distilled water.

2 Q Is it possible to achieve that level of  
3 clean water using only a demineralization system  
4 if West Kern Water District water is used as the  
5 input?

6 A There would still be filtration in front  
7 of it, but primarily it's -- it's -- a  
8 demineralizer system as we've described in our  
9 Application for Certification. It could also be  
10 reverse osmosis, followed by demineralizers.

11 Q Well, the AFC is unclear whether you'll  
12 be using reverse osmosis. So to achieve the level  
13 of cleanliness that you need to achieve for boiler  
14 feed water, will you need to use a reverse osmosis  
15 system?

16 A That's an economic choice. It can be  
17 done either with reverse osmosis followed by  
18 demineralizers, or it can be done with  
19 demineralizers only. Of course, in both cases  
20 presuming some form of filtration. And we're  
21 speaking of the West Kern water supply.

22 MS. POOLE: May we have just a minute.

23 BY MS. POOLE:

24 Q Turning back to Table A. Under Scenario  
25 2, the first number under the dry Tulare/Solid

1 Waste column, you have 28.9 as the capital cost  
2 subtotal.

3 A Yes.

4 Q The footnote explains that you developed  
5 that value, it's a proxy value, from CURE's number  
6 plus a delta. Can you explain a little more about  
7 how you got that number?

8 A Sure. The number that we discussed are  
9 the table in Attachment 1 to Appendix Roman  
10 numeral I, that table developed by Black and  
11 Veatch shows overall plant costs for a dry cooled  
12 plant, and likewise for a wet cooled plant. The  
13 difference in cost between those two scenarios is  
14 \$18.3 million.

15 So if you take as a base some number for  
16 the cooling system -- pick a number, it doesn't  
17 matter, since we're really focused on the  
18 difference in cost here -- since -- well. So  
19 the -- the \$28.9 million figure, for example, is  
20 simply the \$10.6 million figure plus the  
21 difference. The difference is what we're focused  
22 on here, of 18.3.

23 MS. POOLE: Okay. Thanks. That's all  
24 my questions.

25 PRESIDING MEMBER MOORE: Thank you.

1                   I think it's appropriate at this point  
2           to then call for a lunch break. And let's go to  
3           1:15, reconvene here, and we'll take up staff, and  
4           then the intervenors.

5                   (Thereupon, the lunch recess was  
6           taken.)

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## AFTERNOON SESSION

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PRESIDING MEMBER MOORE: We're on the record. And we'll resume the testimony on the briefs filed in response to my questions. And I will turn next to staff. And, counsel?

MS. WILLIS: They may have some redirect.

MR. MILLER: I have one redirect question, if I might, of Mr. Rowley.

PRESIDING MEMBER MOORE: All right.

HEARING OFFICER WILLIAMS: I would just state for the record that all parties who were present at the break are again present in the hearing room. And we are resuming --

PRESIDING MEMBER MOORE: With the -- with the exception of Commissioner Pernell and his aide.

## REDIRECT EXAMINATION

BY MR. MILLER:

Q Mr. Rowley, you were asked by CURE's counsel about comparisons to the Crockett and La Paloma, the whole La Paloma project. Could you comment further on the comparability of those

1 projects with the Elk Hills project in your  
2 analysis of cost?

3 PRESIDING MEMBER MOORE: You know,  
4 before you ask that, let me just -- let me just  
5 say, procedurally, Mr. Miller, wouldn't that fit  
6 easier at the end, when everyone has already done  
7 their brief on their --

8 MR. MILLER: We could do it by way of  
9 rebuttal, but it's sort of standard. I guess I  
10 was thinking that he got a question on cross, and  
11 I'm just doing a --

12 PRESIDING MEMBER MOORE: All right.

13 MR. MILLER: -- one redirect.

14 PRESIDING MEMBER MOORE: All right.

15 BY MR. MILLER:

16 Q So could you respond to the question,  
17 please?

18 A Sure. I had mentioned the Crockett  
19 project was not a merchant power plant. What the  
20 Crockett project is is a cogeneration facility,  
21 with a thermal host. And, at least in the past,  
22 it'd had a standard offer contract that assisted  
23 in meeting its capital costs.

24 And with regard to the La Paloma  
25 project, I believe the question was if I had done

1       an analysis with regard to the whole of the  
2       project.  The -- I haven't looked at the whole of  
3       the project of La Paloma as compared to Elk Hills.  
4       I mean, it's our nearest competitor.  The projects  
5       are very similar when you look at the whole of the  
6       project, in terms of fuel supply, in terms of the  
7       electricity market that we're selling it to,  
8       they're in the same zone.  They both have long  
9       waterlines associated with them, and they have  
10      similar length transmission lines.

11               The one significant difference is, of  
12      course, the dis-economy of scale.  Our project is  
13      normally 500 megawatts versus, you know, La  
14      Paloma's a thousand megawatt project, and another  
15      difference is the elevation difference.  Since our  
16      project is a few hundred feet higher we get less  
17      output, therefore our capital costs per megawatt  
18      are a little higher.

19               But generally speaking, they're --  
20      they're similar projects, looking at the whole of  
21      the project, including wet cooling.

22               MR. MILLER:  No further questions.

23      Thank you.

24               PRESIDING MEMBER MOORE:  Recross?

25               MS. WILLIS:  We have no questions.

1 MS. POOLE: One question.

2 ///

3 RECROSS EXAMINATION

4 BY MS. POOLE:

5 Q In terms of the dis-economy of scale for  
6 La Paloma that you just mentioned, would you  
7 expect that that would cause the capital cost of  
8 dry cooling to be comparably larger for La Paloma  
9 than this project?

10 A I was speaking of the dis-economy of  
11 scale of the Elk Hills project in terms of its  
12 overall megawatt size. I mean, a larger -- the  
13 smaller a project is, generally speaking, the more  
14 it costs on a per kilowatt basis.

15 As far as your question on the air  
16 cooled condenser, and I'm not -- I didn't follow  
17 your question. It didn't seem to --

18 Q Because La Paloma is --

19 A -- match up with what I was talking  
20 about.

21 Q Excuse me. Because La Paloma is larger,  
22 in terms of megawattage, than the Elk Hills  
23 project, would you expect that the dry cooled  
24 condenser would be comparably -- the capital cost  
25 would be comparably larger than the capital cost

1 for the Elk Hills project?

2 A On a per megawatt basis, or on a total  
3 project basis? I -- I'm not --

4 Q Either one.

5 A It would -- it would be twice the size,  
6 and roughly twice the cost, excepting the fact  
7 that since you're buying two of them and  
8 installing two of them, there would be some  
9 economy of scale for doing the project, doing the  
10 dry cooling on a thousand megawatt scale.

11 Q Thank you.

12 A Or some dis-economy for doing it on a  
13 500 megawatt scale.

14 PRESIDING MEMBER MOORE: Thank you very  
15 much, Mr. Rowley.

16 All right. Now I'll turn to staff.

17 MS. WILLIS: Thank you. First we need  
18 to swear in Matt Layton.

19 (Thereupon, Matthew Layton was, by  
20 the reporter, sworn to tell the  
21 truth, the whole truth, and nothing  
22 but the truth.)

23 TESTIMONY OF

24 MATTHEW LAYTON

25 called as a witness on behalf of the Commission

1 staff, having been first duly sworn, was examined  
2 and testified as follows:

3 DIRECT EXAMINATION

4 BY MS. WILLIS:

5 Q Could you please state your name for the  
6 record?

7 A My name is Matthew Layton.

8 Q And what is your job title?

9 A I'm an Associate Mechanical Engineer in  
10 the Environmental Office of the Siting Division.

11 Q And did you assist in the preparation of  
12 the testimony entitled Attachment A, Water and  
13 Power Plant Cooling Supplemental Testimony of  
14 Matthew S. Layton and Joe O'Hagan?

15 A I did.

16 Q Was the statement of your qualifications  
17 attached to this testimony?

18 A Yes.

19 Q Do you have any changes or corrections  
20 to that testimony?

21 A I do not.

22 MS. WILLIS: And just for the record, we  
23 have marked that as Exhibit 19-C, I believe.

24 HEARING OFFICER WILLIAMS: C, as in  
25 Charlie. Yes.

1 MS. WILLIS: As in Charlie.

2 ///

3 BY MS. WILLIS:

4 Q Do the opinions contained in your  
5 testimony represent your best professional  
6 judgment?

7 A They do.

8 TESTIMONY OF

9 JOSEPH O'HAGAN

10 called as a witness on behalf of the Commission  
11 staff, having previously been duly sworn, was  
12 examined and testified further as follows:

13 DIRECT EXAMINATION

14 BY MS. WILLIS:

15 Q Mr. O'Hagan, having previously been  
16 sworn, could you just state your name again for  
17 the record?

18 A My name is Joseph O'Hagan.

19 Q And did you assist in the preparation of  
20 the testimony entitled Attachment A, Water and  
21 Power Plant Cooling Supplemental Testimony of  
22 Matthew S. Layton and Joe O'Hagan?

23 A Yes, I did.

24 Q Was a statement of your qualifications  
25 also attached to the testimony?

1           A     Yes, it was.

2           Q     Do you have any changes or corrections  
3 to your testimony?

4           A     No, I don't.

5           Q     And do the opinions contained in that  
6 testimony represent your best professional  
7 judgment?

8           A     Yes, it does.

9           Q     And could you please provide a brief  
10 summary of that testimony.

11          A     As directed by the Committee, staff  
12 evaluated the cost of installing and operating  
13 wet/dry and dry cooling technology for the Elk  
14 Hills Power project, and the meaning of the term  
15 economically unsound that is contained in State  
16 Water Resources Control Board Policy 75-58.

17               Based on our evaluation, staff feels  
18 that alternative cooling technology, such as dry  
19 cooling or wet/dry cooling, is technologically  
20 feasible for the proposed project. Use of such  
21 technology does pose a variety of options, design  
22 and operational options for a power plant  
23 developer, and on that basis we did not try to  
24 design a facility and come up with the costs  
25 accordingly. In addition, that also means that



1 costs -- costs can -- design and operational costs  
2 can vary quite a bit.

3 However, staff does feel, in general,  
4 that dry and wet/dry cooling is more expensive  
5 than the wet cooling.

6 Staff was unable to come up with a  
7 definition of economically unsound. As indicated  
8 by Ms. Vassey this morning, State Water Resources  
9 Control Board staff member is unaware of any  
10 definition of that term. We were not able to  
11 establish one either. We feel that actually this  
12 is a -- a process in the competitive market where  
13 the -- only the power plant developer can make a  
14 determination.

15 If you recall, this policy was passed in  
16 1975, when we were dealing with a regulated  
17 monopoly, where costs could be passed on to the  
18 ratepayers directly.

19 Staff did look at the last two siting  
20 cases where this policy had been discussed, which  
21 was the High Desert Power project, which is up for  
22 adoption tomorrow, and the La Paloma Power  
23 project, which was -- was decided a few months  
24 ago. These projects were approved using wet  
25 cooling technology. The policy was evaluated as

1 part of the evidentiary record. Both the proposed  
2 decision for High Desert and the final decision  
3 for La Paloma concluded that dry cooling and  
4 wet/dry cooling would be more -- a more expensive  
5 option, and that they -- the decisions determined  
6 that the project with wet cooling would comply  
7 with the State Water Resources Control Board  
8 Policy 75-58.

9 Based on our evaluation of this, staff  
10 concludes that the project will be consistent with  
11 the State Water Resources Control Board policy.

12 MS. WILLIS: Thank you.

13 DIRECT EXAMINATION (Resumed)

14 BY MS. WILLIS:

15 Q Mr. Layton, did you review CURE's  
16 opening brief on the economic analysis of dry  
17 cooling?

18 A I did.

19 Q And do you agree with CURE's conclusions  
20 that dry cooling would actually be less expensive  
21 than a wet cooling option?

22 A I do not.

23 Q And could you please explain why?

24 A In all the research that I looked at,  
25 which I've been -- dry cooling has been looked at

1 as an option for about 20 years, or longer. These  
2 -- these are studies done by DOE, EPRI, the Energy  
3 Commission, and other agencies, private and  
4 public, and were trying to figure out if dry  
5 cooling was an option.

6 And in all these studies, they came out  
7 with the conclusion that dry cooling was more  
8 expensive. Now, that does not mean that dry  
9 cooling is not feasible. That just means that for  
10 most cases it's more expensive.

11 And so I -- I would say that the numbers  
12 would probably tend towards being higher, rather  
13 than equivalent to wet cooling.

14 MS. WILLIS: Okay, thank you.

15 We'd first like to move our supplemental  
16 testimony, Attachment A, 19-C into the record.

17 PRESIDING MEMBER MOORE: Any objections?

18 MS. POOLE: Only that it might be more  
19 appropriate just to mark that for now, until the  
20 Committee rules on the motions to strike.

21 MS. WILLIS: I don't believe that our  
22 testimony is -- is one of the objects of the --  
23 any of the motions.

24 PRESIDING MEMBER MOORE: I'm not aware  
25 of that, either. So I -- I'm puzzled, Ms. Poole.

1 MS. POOLE: Well, to the -- excuse me.

2 PRESIDING MEMBER MOORE: I was just  
3 going to try and see if I could articulate what I  
4 think you are saying, but maybe you can -- you can  
5 probably do it better than I can. Tell me -- tell  
6 me where you're going.

7 MS. POOLE: What I'm saying is that we  
8 provided our reply brief, and the information  
9 that's contained in it, in response to staff's  
10 testimony in Exhibit 19-C. The Committee's ruling  
11 on the motion to strike sections of our reply  
12 brief that are in response to what staff has  
13 offered may be contingent on what -- what portions  
14 of staff's testimony comes in.

15 I don't know if that's what the  
16 Committee's thinking right now.

17 PRESIDING MEMBER MOORE: Yeah. I -- I  
18 understand the logic that you're using, and I  
19 don't think it's going to apply in this case. I  
20 think it's probably okay to allow it to come in  
21 and be part of the record. I don't think I  
22 prejudice anything by letting that happen.

23 So let's enter that as 19-C.

24 (Thereupon, Exhibit 19-C was  
25 received into evidence.)

1                   PRESIDING MEMBER MOORE: Any --

2                   MS. WILLIS: And the witnesses are  
3                   available for cross examination.

4                   PRESIDING MEMBER MOORE: All right.  
5                   I'll turn to the Applicant. Do you have  
6                   questions, Mr. Miller?

7                   MR. MILLER: I have just one question  
8                   for Mr. O'Hagan.

9                   CROSS EXAMINATION

10                  BY MR. MILLER:

11                  Q     I'd like to inquire as to whether in the  
12                       course of preparing the testimony and looking at  
13                       cost data records, or whatever, you have any  
14                       information regarding the number of times, or  
15                       examples in which dry cooling has been used in  
16                       power plants in California since the adoption of  
17                       75-58 in 1975.

18                  A     Projects that I'm aware of, which would  
19                       all be subsequent to 1975, would include the  
20                       Crockett Power project that's already been  
21                       discussed; the Sutter Power project, which was a  
22                       siting case before the Commission that's been  
23                       approved, which was proposed by the Applicant to  
24                       use dry cooling; and then there is an Application  
25                       for Certification at the Commission now for a dry

1       cooling project in southern San Diego County, the  
2       Otay Mesa project.

3           Q     And do you have any information  
4       regarding how many other power plants may have  
5       been constructed and -- or how many megawatts  
6       there might have been since 1975, which have used  
7       other cooling methods, presumably wet cooling?

8           A     Well, we tried to look at water  
9       consumption by power plant projects. We were  
10      taking a look at a number of projects built in the  
11      state, and there's close to 600 power plants that  
12      have been built within the state since 1975, and  
13      that's everything from about .1 megawatts up to,  
14      you know, several hundred megawatts, but these  
15      don't include hydro facilities. Out of that, I  
16      would suspect most use wet cooling towers.

17          Q     And all of those having been built since  
18      adoption of the State Water --

19          A     Yes.

20          Q     -- Resources Control Board's policy.

21          A     According -- according to the Energy  
22      Commission power plant database, since 1975.

23          Q     And do you have a total megawattage on  
24      those power plants?

25          A     It was just a little less than 16,000

1 megawatts.

2 Q Thank you. So, in summary, there are,  
3 since 1975, some 600 projects of close to 16,000  
4 megawatts that were constructed with wet cooling,  
5 and maybe two or three, four projects that have  
6 been constructed --

7 A Well, I'd have to point out some of the  
8 projects don't use -- use reclaimed water. Or --  
9 I mean, and there are some alternatives there.  
10 But I suspect the majority use wet cooling, and I  
11 suspect the majority it's fresh inland water.

12 Q And there's no evidence that you came  
13 across that projects that were constructed with  
14 wet cooling were constrained in some way by the  
15 application of Resolution 75-58?

16 A No. I -- I've worked on a number of  
17 siting cases here where the policy has been  
18 discussed. I mentioned the two recent cases. The  
19 Regional Water Quality Control Board, when it  
20 certifies -- for one certification under the Clean  
21 Water Act, projects when they're getting waste  
22 discharge requirements or NPDS permits for --  
23 source discharges, they need to certify that the  
24 projects comply with all water quality standards  
25 and policies. And I am not aware of any power

1 plant project where they were required to go to  
2 dry cooling, wet/dry cooling, or even alternative  
3 cooling water because of this policy.

4 MR. MILLER: Thank you. I have no  
5 further questions.

6 PRESIDING MEMBER MOORE: Thank you, Mr.  
7 Miller.

8 Ms. Poole.

9 CROSS EXAMINATION

10 BY MS. POOLE:

11 Q Mr. O'Hagan, just to follow up what you  
12 were just discussing. The projects that you  
13 identified that you're aware have -- are using or  
14 have proposed to use dry cooling, those are --  
15 that's limited to projects greater than 50  
16 megawatts; correct?

17 A Correct. I know there's other dry  
18 cooling projects in the state. I -- I don't know  
19 the number. I, you know, I've heard that there's  
20 a facility near Mammoth, but I don't know when it  
21 was constructed, and -- you know. So I --

22 Q Okay.

23 A The -- the ones I mentioned, yes, I am  
24 familiar with. And they are over 50 megawatts.

25 Q Okay. But the total 600 projects with



1       60,000 megawatts, those are -- those include --

2           A     Sixty --

3           Q     Excuse me. Those include projects that  
4       are smaller than 50 megawatts.

5           A     Yes, yes. Like I said, it goes all the  
6       way down to a tenth of a megawatt.

7           Q     Okay.

8           MS. WILLIS: And just to clarify, that  
9       was one-six, 16,000; right?

10          THE WITNESS: Yes.

11          MS. WILLIS: Not 60.

12                   CROSS EXAMINATION

13          BY MS. POOLE:

14          Q     Okay. And, Mr. Layton, you talked about  
15       some research that you looked at about the costs  
16       of dry versus wet cooling. Do you know -- in the  
17       research that you looked at, were they comparing  
18       the bare components of dry -- a dry cooled system  
19       versus a wet cooled system, or were all of those  
20       studies looking at the total project power plant  
21       costs, using a dry cool system, versus the total  
22       project cost using a wet cool system?

23          A     Most of the studies were looking at the  
24       total project costs.

25          Q     And can you tell me which ones those

1       were?

2           A     No, I can't. I reviewed about 60  
3       different studies. The sites are in the  
4       testimony, and I have some of the sites on my desk  
5       if you'd like to look through them.

6           Q     No thanks.

7                     You included High Desert's and Sutter's  
8       cost estimates in your testimony, but you did not  
9       include La Paloma's estimate that alternative  
10      cooling technologies would add seven to eight  
11      million to the capital costs of the project.  
12      Correct?

13          A     That's correct.

14          Q     Is there a reason you excluded La  
15      Paloma's estimate?

16          A     No reason.

17          Q     You also cite to a 1995 letter from  
18      Frank Ortega, at GEA Power Cooling Systems, but  
19      you don't include the cost estimate in that letter  
20      of six to ten million for dry cooling equipment.  
21      Correct?

22          A     I'm not sure what you're referring to.  
23      I -- I received a quote from Frank Ortega. I'm  
24      not sure what -- that familiar with --

25          Q     Well, let me show you the letter to

1 refresh your memory. Is that a copy of the letter  
2 that's cited in your testimony?

3 A It is.

4 HEARING OFFICER WILLIAMS: Ms. Poole,  
5 could you give us a page number from the AFC?

6 MS. POOLE: From the testimony?

7 HEARING OFFICER WILLIAMS: Yes.

8 MS. POOLE: Well, it's included in the  
9 list of citations in the back. It's on page 20,  
10 second to the last citation, Frank Ortega, 1995.

11 HEARING OFFICER WILLIAMS: Okay. Thank  
12 you.

13 MS. POOLE: May I take a quick look at  
14 this, just to --

15 HEARING OFFICER WILLIAMS: Let the  
16 record reflect that the Committee has received  
17 copies of the Ortega letter, dated August 30th,  
18 '95. It's approximately 11 pages.

19 Did you want this marked, Ms. Poole?

20 MS. POOLE: It doesn't need to be, as  
21 far as I'm concerned. If the Committee would like  
22 to have it marked, that's fine.

23 PRESIDING MEMBER MOORE: We don't have  
24 to. Mr. Layton, you have the letter in front of  
25 you?

1 THE WITNESS: I do.

2 PRESIDING MEMBER MOORE: Okay. Ms.  
3 Poole, your question.

4 BY MS. POOLE:

5 Q I believe it's on page three, I'm not  
6 sure the pages are numbered, but the third page,  
7 at the bottom, it looks to me like that's an  
8 estimate that states that dry cooling equipment  
9 would -- would cost from six to \$10 million. Is  
10 that right?

11 A That's correct.

12 Q Is there a reason you didn't include  
13 those costs in your testimony?

14 A I did refer to this -- back in 1995 I  
15 was working on the San Francisco Energy case, and  
16 they were proposing a hybrid cooling tower, a  
17 wet/dry hybrid cooling tower. There was some  
18 discussion looking at dry cooling, 100 percent  
19 dry. I called Mr. Ortega, at GEA, one of the  
20 primary manufacturers of cooling towers, and also  
21 dry cooling towers, and received some information  
22 from him.

23 In this memo that he sent me, based on  
24 my request, he had laid out some costs for  
25 different cooling towers, depending on what --

1        what the backpressure is, what backpressure you  
2        wanted for your turbine.  If you wanted an  
3        eight -- eight inches of mercury backpressure in  
4        your turbine, the costs for equipment would be 6.3  
5        million, and total erection would be -- cooling  
6        erection would be eight million.

7                If you wanted a four inches of mercury  
8        backpressure in your condenser, the costs would  
9        rise to ten million for equipment only, and 13  
10       million for including erection.

11               Again, there's a range of costs,  
12       depending on what you want your power plant to  
13       perform at.  If -- if you can stand to have losses  
14       that might come with eight inches of mercury, then  
15       you can save some money on capital.  If you wish  
16       to approach what a wet cooling tower could do,  
17       then the costs start to climb.

18               And I do refer to that in my testimony,  
19       where I discuss that Ortega comes up with a quote  
20       of -- they would cost two or three times more.  
21       Dry cooling would cost two or three times more.

22               Q        Okay.  Thanks.

23               In fact, the only absolute costs, this  
24       goes to relative costs, that are included in your  
25       testimony are Calpine's estimates for Sutter,

1       which are more than double GEA's and La Paloma's  
2       estimates; correct?

3           A     I tried to keep the study to ranges of  
4       costs. I did not feel that I could predict  
5       exactly how Elk Hills would want to design and  
6       operate their project. There is a possibility  
7       that on some days the project could not operate  
8       the steam turbine, and that would be a loss of 170  
9       megawatts. I don't know if they could live with  
10      that or not. That would be the difference -- you  
11      know, it could be a significant difference in  
12      capital cost to make sure that you can design for  
13      that one extreme day. Alternatively, maybe you  
14      could stand to have two or three days without a  
15      steam turbine. I don't know. So I tried to put a  
16      range of costs in there.

17           No, I do not have very specific costs  
18      for Elk Hills.

19           Q     But, in fact, the only absolute costs  
20      that you have included in your testimony were for  
21      Sutter, rather than GEA's or La Paloma's, or  
22      somebody else's; correct?

23           A     I don't know if I would even call  
24      Sutter's costs absolute.

25           Q     I'm just talking about hard numbers.

1           A     It -- it is a number in there, and  
2     otherwise I do not have specific numbers; I have  
3     ratios. I talked about GEA as two to three times,  
4     GEA said it was two to three times more expensive.  
5     But I do not say what the original number is  
6     that's now two or three times more.

7           MS. POOLE: Okay. Thanks. That's all  
8     my questions.

9           PRESIDING MEMBER MOORE: Thank you very  
10    much.

11           Mr. Miller.

12           MR. MILLER: I have one recross, please.

13                   CROSS EXAMINATION

14                   BY MR. MILLER:

15           Q     The -- the document that was just  
16     referred to by CURE, that you were just questioned  
17     on, the GEA quote --

18           A     Yes.

19           Q     The -- could you tell us the size of the  
20     facility that that would be responding to?

21           A     It was a 240 megawatt combined cycle.

22           Q     So that would -- would that suggest,  
23     then, that the cost for a 500 megawatt plant would  
24     be roughly double?

25           A     Roughly. And Mr. Rowley suggested that

1 costs -- you do get some benefit for increasing  
2 the size.

3 Q And therefore, the one, two, three  
4 options with the different backpressures from  
5 eight to four, the total with erection would go  
6 from -- in the first case, for example, at eight  
7 inches, would go from 8 million to 16 million,  
8 roughly?

9 A Roughly. There are difference in costs  
10 of construction, transportation, things like that,  
11 that have to be included.

12 Q Okay. And so in the case with the four  
13 inches of backpressure, it would go somewhere, not  
14 maybe 26, but close to it, and it would be double  
15 the 13 million that's shown here?

16 A Approximately.

17 MR. MILLER: Thank you.

18 PRESIDING MEMBER MOORE: All right. No  
19 further questions. Thank you.

20 With that, I'm going to turn to Ms.  
21 Poole, and your brief.

22 MS. POOLE: All right. Thank you.

23 Dr. Fox has previously been sworn, so  
24 we'll launch right in.

25 ///



1       ///

2       ///

3                               TESTIMONY OF

4                               DR. PHYLLIS FOX

5       called as a witness on behalf of CURE, having  
6       previously been duly sworn, was examined and  
7       testified further as follows:

8                               DIRECT EXAMINATION

9                               BY MS. POOLE:

10               Q     Dr. Fox, are the facts contained in  
11       CURE's Phase 2 opening and reply briefs, and their  
12       attachments, true and correct to the best of your  
13       knowledge?

14               A     Yes.

15               Q     And excluding the legal arguments, are  
16       the opinions in CURE's Phase 2 opening and reply  
17       briefs consistent with your best professional  
18       judgment?

19               A     Yes.

20               Q     Would you like to summarize the  
21       information contained in those briefs for the  
22       Committee?

23                       MR. MILLER:   Could I interrupt just  
24       politely, right at the beginning.

25                       The questions just asked whether the

1 information in the opening and reply briefs, and  
2 presumably the testimony may be going -- that was  
3 just invited to be given, would cover the reply as  
4 well as the opening briefs. The reply brief is  
5 the subject of the motions that we discussed this  
6 morning, and I would like to just reconfirm the  
7 scope of the hearing at this point, until those  
8 motions are ruled upon, is the issues of wet  
9 versus dry costs, and economically unsoundness, as  
10 was requested by Commissioner Moore.

11 So since the reply brief in its entirety  
12 goes beyond that, I just wanted to caution that I  
13 would -- hopefully we reach agreement that the  
14 testimony would not go into the areas at this  
15 point that are subject to the motions to strike  
16 and to limit.

17 MS. POOLE: And Dr. Fox does intend to  
18 discuss the economic --

19 PRESIDING MEMBER MOORE: I think that  
20 fairly restates what I had in mind, and I'm  
21 assuming that Ms. Poole and her client will  
22 respect that. So, yes.

23 MR. MILLER: Thank you.

24 BY MS. POOLE:

25 Q Would you please summarize the

1 information?

2 A Now, we're talking about the opening  
3 brief.

4 Q We're talking about the arguments  
5 concerning economic soundness and cost comparisons  
6 for dry and wet cooling.

7 A I did a cost analysis, which is included  
8 in the opening brief, using the information in the  
9 AFC. I used a series of programs put out by  
10 ThermoFlow. ThermoFlow is a Massachusetts company  
11 which develops and markets software which is  
12 widely used in the power industry to design and  
13 cost power plants.

14 Mr. Rowley characterized these programs  
15 that I used as, quote, models, and the term model  
16 is really a term of art which carries with it  
17 certain generally adverse connotations. For  
18 example, there are air quality models and water  
19 quality models that seek to simulate different  
20 conditions. There are economic models that seek  
21 to simulate entire economies. And most people  
22 recognize the fact that models are only that, a  
23 simulation and nothing more, and they can be quite  
24 inaccurate.

25 The programs that are produced by

1       ThermoFlow are not really models. They are heat  
2       balance and costing programs. They do nothing  
3       more than the calculations that an engineer would  
4       do with a pencil and a piece of paper, except they  
5       accelerate that process.

6               For example, GT Pro, which is one of  
7       these programs, produces the heat balance for a  
8       power plant. And what we did was we took the heat  
9       balance, which is included in the AFC, and simply  
10      reproduced it in ThermoFlow. Simple exercise.  
11      Doesn't involve any modeling or wild assumptions.  
12      It simply reproduced information presented by the  
13      Applicant in its AFC.

14             That simulation then is dumped into a  
15      second program called GT Master, which fixes the  
16      hardware, again using information from the AFC.  
17      And the output from that is dumped into a costing  
18      program which calculates the cost, doing exactly  
19      what an engineer would do with pencil and a piece  
20      of paper, and information from vendors.

21             I used that series of programs, and the  
22      Applicant's heat balance and equipment sizing data  
23      from the AFC, to determine the effect of dry  
24      cooling on the profitability of the Elk Hills  
25      Power project. We chose, instead of looking at

1 net present value or other possible economic  
2 measures, we looked at what a lender would look at  
3 in evaluating whether or not a project is suitable  
4 for financing. And what a lender looks at is not  
5 net present value. A lender will look at the  
6 internal rate of return, or the IRR.

7 And the ThermoFlow programs allow you to  
8 calculate that. And in making the calculations,  
9 we did not attempt to second guess what the  
10 Applicant's assumptions were with respect to any  
11 of the financial parameters that go into those  
12 calculations. The model comes with built-in  
13 industrywide assumptions. And we held those  
14 constant, and the only thing that we substituted  
15 was the Energy Commission's very own forecasts for  
16 the price of electricity and the price of natural  
17 gas, and the rate of inflation.

18 The Energy Commission recently did its  
19 own study to evaluate the economic viability of  
20 the merchant plants that are currently being  
21 proposed. The study was published in February of  
22 this year, and it's on the Energy Commission's  
23 Website. And we took the financial assumptions  
24 that the Energy Commission staff itself developed,  
25 together with engineering costing data, based on

1 the AFC, and forecast what the impact of dry  
2 cooling would have on the internal rate of return  
3 of the Elk Hills Power project. And the results  
4 of that analysis indicates that dry cooling would  
5 reduce the internal rate of return by about one-  
6 third of a percent. In other words, it's  
7 minor. We are not claiming, as the  
8 Applicant and staff have suggested, that dry  
9 cooling comes without a penalty. It certainly  
10 does come with a financial penalty. It's  
11 primarily due to the loss of electrical output  
12 from the increase in backpressure. There's no  
13 dispute over that fact.

14 However, you can take your penalty in  
15 two ways. You can take your penalty in terms of  
16 reduced electrical output, which means you lose  
17 revenue on the hottest days, when you want to sell  
18 it, or you can take your penalty in terms of  
19 increased fuel consumption. You can actually  
20 offset the loss in electrical output by cranking  
21 up the duct burner and simply firing it more.

22 What we found from running the Peace  
23 program, the model that calculates the costs, is  
24 that it is generally more cost effective to take  
25 the hit in electrical output as opposed to

1 cranking up the duct burners, because the duct  
2 burners are not as efficient as the rest of the  
3 power island.

4 Anyway, in sum, we agree that there is a  
5 financial penalty associated with using dry  
6 cooling, and that translates into a reduction in  
7 the internal rate of return of about a third of a  
8 percent.

9 Q Dr. Fox --

10 PRESIDING MEMBER MOORE: Ms. Poole,  
11 before you go to your next question, can I just  
12 ask one question of Dr. Fox, and that is, in terms  
13 of the heat balance model -- and I'm very familiar  
14 with the term models -- I'm not sure I wouldn't  
15 object to the idea that they're -- they always  
16 produce a negative result in the sense that they  
17 simply simulate someone's vision of reality,  
18 whether it's mine or anyone else's. But in order  
19 to calculate IRR, someone putting that model, or  
20 the -- or the statistical package together, had to  
21 make some assumptions about capital costs. I  
22 mean, isn't that correct?

23 I mean, built into that, whether it's  
24 invisible to the user or not, would have to be  
25 some set of standardized or routinized assumptions

1       about capital costs, the -- the interest rate on  
2       capital, the -- the preferred operational mode,  
3       what the level of return is going to be on --  
4       based on different management techniques. There  
5       have to be some set of assumptions, I'm assuming.  
6       Am I not correct?

7               THE WITNESS: Yes. The -- I'll address  
8       it in pieces.

9               With respect to the capital cost, the  
10       program calculates the capital costs for this  
11       project. What it does is it takes the heat  
12       balance in the AFC and converts it into a hardware  
13       design, and then that hardware design is costed  
14       using the same cost factors that a Black and  
15       Veatch or -- Daniel would use in calculating pro  
16       forma costs for the plant. And it --

17              PRESIDING MEMBER MOORE: Well -- okay.

18              THE WITNESS: -- comes up with the total  
19       capital cost, which is included in one of the  
20       attachments to the opening brief. And then it  
21       takes that total capital cost and using  
22       industrywide assumptions for the financial  
23       parameters, supplemented by site specific numbers  
24       for California based on the Energy Commission  
25       study, does a cash flow analysis and spits out the



1 internal rate of return.

2 PRESIDING MEMBER MOORE: Okay. Well,  
3 without -- without trying to suggest that Black  
4 and Veatch, who are represented here today, might  
5 use -- might have their factors inculcated into  
6 this, let's simply take them out of the equation  
7 for right now.

8 Is -- are the assumptions that underlie  
9 that and as a consequence are driven by the heat  
10 balance that you've referred to, are those  
11 assumptions changeable in this statistical tool  
12 that you've got?

13 THE WITNESS: Yes. You can change all  
14 of the assumptions.

15 PRESIDING MEMBER MOORE: Okay. So, and  
16 are they reportable? In other words, when -- when  
17 the model is -- or when the tool, I'll just refer  
18 to it as a tool -- when you're using it, if you  
19 hit the key that says output factors or assumption  
20 factors, will it -- will it print out interest  
21 rates, assumed cost of capital, all that?

22 THE WITNESS: Yes.

23 PRESIDING MEMBER MOORE: So you could,  
24 as the operator, go in and say no, no, that's not  
25 right, this month it's so and so, and change

1 those.

2 THE WITNESS: Yes.

3 PRESIDING MEMBER MOORE: Okay.

4 THE WITNESS: You can vary all of the  
5 factors.

6 PRESIDING MEMBER MOORE: Okay. Thanks.

7 I just -- I needed to get it straight in my mind  
8 the kind of tool that you were working with.

9 Ms. Poole, sorry to interrupt.

10 MS. POOLE: That's all right.

11 BY MS. POOLE:

12 Q Just to follow-up a bit on what  
13 Commissioner Moore was saying. Some of the inputs  
14 that you did change were escalation inputs taken  
15 from an Energy Commission report; correct?

16 A Yes.

17 Q And this analysis that you performed to  
18 determine whether dry cooling is economically  
19 unsound, would you say that this is roughly  
20 analogous to a BACT cost effectiveness  
21 determination where control technologies are  
22 compared to a threshold to determine if they're  
23 cost effective?

24 A The cash flow analysis in the opening  
25 brief?

1           Q     The analysis concerning the reductions  
2     in output.

3           A     Yes.

4           MS. POOLE:   Thank you.   Dr. Fox is  
5     available for cross.

6           PRESIDING MEMBER MOORE:   Thank you very  
7     much.

8           Mr. Miller, we'll turn to you first.

9           MR. MILLER:   Dr. Fox, I'd like to ask --

10          MS. POOLE:   I'm sorry.   I'm sorry.   I  
11     take it back.   I jumped the gun here.   Dr. Fox did  
12     have some rebuttal, and if you'll allow us to go  
13     to that first.

14          THE WITNESS:   I can't believe you'd  
15     think I didn't have any rebuttal after all this  
16     time.   I -- I do have some rebuttal.

17          PRESIDING MEMBER MOORE:   I'm not  
18     surprised.

19          Sorry, Mr. Miller.   I won't forget you.

20          MR. MILLER:   I'm sure you won't.

21          PRESIDING MEMBER MOORE:   I promise.

22          THE WITNESS:   Before I jump into this, I  
23     would like to make a point.   I think it's  
24     important to realize that all that we are talking  
25     about here, all of the parties, we're talking

1       about one potential alternative to classical wet  
2       cooling, which is dry cooling. We have not had  
3       any discussion or cost estimates presented by  
4       anybody on the many other alternatives that are  
5       possible, like a parallel dry/wet system, or a  
6       zero discharge system, or the use of recycled  
7       water, for example.

8               PRESIDING MEMBER MOORE: Your point's  
9       made. I -- I'm well aware of the range that we're  
10      discussing.

11             THE WITNESS: What we're talking about  
12      here is the worst case, and there are many options  
13      between the worst case and the use of a classical  
14      wet cooling tower. That -- that's important to  
15      keep in mind when you're considering this  
16      testimony.

17             I'd first like to address the claims  
18      made by Mr. Rowley in previous hearings and today,  
19      and additionally in his written testimony, on page  
20      two, of the so-called competitive disadvantage  
21      that would accrue to Elk Hills, compared to La  
22      Paloma or other West Kern County power plants due  
23      to the use of dry cooling.

24             The Elk Hills project is located smack-  
25      dab in the middle of a gas field. Immediately

1 adjacent to the proposed power plant site is a gas  
2 processing plant. There are gas wells all around  
3 the site. The cost of natural gas has at least  
4 two components. There's the market price of  
5 natural gas that the owner and seller of natural  
6 gas would get if they sell it. And there's an  
7 additional cost, and that is the transportation  
8 cost. Normally, natural gas is conveyed by a  
9 publicly or privately owned pipeline, and that  
10 conveyance comes with a cost. There's a cost  
11 associated with it.

12 The market price of natural gas, and the  
13 price of natural gas delivered to a customer some  
14 distance away, consists of two components, the  
15 market price of the natural gas and the  
16 transportation cost. Because Elk Hills is  
17 situated right in the middle of a gas field, they  
18 don't have to pay PG&E or a private pipeline owner  
19 to transport the gas. So they have a advantage  
20 due to their location in the gas field, and that  
21 advantage is pretty substantial.

22 The Energy Commission has prepared cost  
23 estimates of the price of natural gas as  
24 transported by PG&E or SCE, compared to the price  
25 of natural gas to someone like Cool Water, which

1 doesn't have to pay any transportation cost.  
2 They've published a report on that. And the  
3 difference is roughly 20-plus cents per million  
4 Btus.

5 That doesn't sound like very much. But  
6 the major operational cost for one of these power  
7 plants is the fuel. Eighty percent or more of the  
8 operating costs of one of these merchant plants is  
9 natural gas. And over the 30 year life of one of  
10 these plants, a 20 percent differential in the  
11 price that you pay for fuel adds up to a heck of a  
12 lot of money.

13 I took the Peace -- the ThermoFlow price  
14 cost simulation that we did for this project and  
15 ran it for two scenarios to calculate what the  
16 differential cost would be of paying market price  
17 for natural gas with and without the  
18 transportation load.

19 MR. MILLER: Excuse me. Is this -- is  
20 this a new calculation? Is this in your prior  
21 testimony, what you're testifying to?

22 THE WITNESS: This is rebuttal.

23 MR. MILLER: I'd have to object. We're  
24 now in the hearing --

25 PRESIDING MEMBER MOORE: Well, yeah, I

1       -- I think, Dr. Fox, if you can hold it simply to  
2       comment on -- directly on what was presented,  
3       either in the briefs or in today's testimony, I  
4       think that it's going to be easier for us to deal  
5       with. So let's -- let's -- I'm going to sustain  
6       that, and I'm -- and bring you back and have you  
7       focus just on what we have in front of us.

8               THE WITNESS: We actually talk about  
9       this in the brief. This is covered in the brief.

10              MR. MILLER: I don't believe there's a  
11       modeling exercise in the brief on this specific  
12       point.

13              PRESIDING MEMBER MOORE: In terms --

14              THE WITNESS: Let me refer you to where  
15       it is.

16              PRESIDING MEMBER MOORE: All right.  
17       Let's hear the cite.

18              (Pause.)

19              THE WITNESS: It's on page 11, under  
20       natural gas prices.

21              PRESIDING MEMBER MOORE: Why don't you  
22       read the sentence that says what you are citing.

23              HEARING OFFICER WILLIAMS: Dr. Fox, is  
24       that the opening brief?

25              THE WITNESS: That is the opening brief,

1       yes.  It's a little more than one sentence, but  
2       I'll read it to you.

3               Table A-1 of the CEC staff report shows  
4       forecast natural gas prices for the electric  
5       generation sector through the year 2019.  The Cool  
6       Water prices were used in our analysis for each  
7       year through 2019, after which gas prices were  
8       assumed to escalate at the general rate of  
9       inflation.

10              The Cool Water prices were used because  
11       those prices represent the cost of gas delivered  
12       directly to an electric generator without having  
13       to pay either SoCalGas or PG&E transportation  
14       charges.  The Elk Hills project, because it would  
15       obtain its gas supply directly from adjoining  
16       wells -- and note the cite to the AFC -- would not  
17       be subject to any intrastate delivery charges from  
18       PG&E or SoCalGas, and thus the Cool Water price  
19       forecast is the relevant one to use.

20              PRESIDING MEMBER MOORE:  Well, I think  
21       that -- that restates the point that you made  
22       earlier, and I'm going to sustain what Mr. Miller  
23       is saying.  Extrapolations from that out using  
24       different -- different rates of usage, or  
25       something else, really aren't in the analysis.



1                   So let me -- let me bring you back to  
2                   rebutting what is -- what was before us today.

3                   THE WITNESS: Okay. As to rebutting,  
4                   the issue is whether or not using dry cooling  
5                   would give La Paloma a competitive advantage over  
6                   Elk Hills, and my response to that is there is no  
7                   competitive issue here because Elk Hills holds all  
8                   of the competitive advantage to the tune of \$391  
9                   million over the life of the project.

10                  MR. MILLER: Object again --

11                  THE WITNESS: It's a pretty substantial  
12                  amount of money.

13                  PRESIDING MEMBER MOORE: Well, I don't  
14                  know where that \$391 million is coming from, but  
15                  I'll accept your statement that -- that you  
16                  believe they own a -- own a competitive advantage,  
17                  given their location.

18                  THE WITNESS: And I would next like to  
19                  comment on page four of Mr. Rowley's testimony.  
20                  In -- in the analysis that the Applicant did of  
21                  the three scenarios that you heard Mr. Rowley  
22                  describe, they assumed that if onsite wells --  
23                  well, the dry scenario that I evaluated included  
24                  dry cooling, and the use of water from onsite  
25                  wells. In the dry scenario that the Applicant

1       evaluated, they assumed dry cooling, but they did  
2       not assume onsite wells. They assumed that the  
3       Tulare groundwater would be imported from 4.4  
4       miles away, and so they have included the costs  
5       associated with drilling the wells and running the  
6       4.4 mile pipeline to import groundwater to the  
7       project site, which tips the balance between the  
8       relative costs of dry and wet cooling.

9               And the argument that they make for  
10       doing that is that there is no groundwater, or  
11       potentially no groundwater at the site. The exact  
12       wording in Mr. Rowley's testimony is, insufficient  
13       geologic data is available to provide confidence  
14       in reliable water production or quality from new  
15       wells of unknown depth located in the immediate  
16       vicinity of the power plant site, as suggested by  
17       CURE.

18              So, they argue that as far as they know,  
19       there isn't any onsite groundwater that's usable,  
20       and they include costs for importing it from a  
21       pretty substantial distance, which I disagree  
22       with. And I disagree with it for a couple of  
23       reasons.

24              First, the AFC very clearly states that  
25       there is onsite groundwater. And I would like to

1 pull out a section of the AFC and quote from it,  
2 if I may.

3 PRESIDING MEMBER MOORE: Why don't you  
4 just cite the portion? It's clear what you're  
5 saying is that you disagree with the factor that  
6 they put in, because it raises the cost. And  
7 raises the cost because there is not -- because of  
8 the distance for transport. That's -- you're  
9 making that clear.

10 Do you want to cite the place in the --

11 THE WITNESS: Right. I would like to  
12 provide several lines of evidence that suggest  
13 that there indeed is onsite groundwater.

14 MR. MILLER: I have to object again.  
15 I'm sorry to interrupt you.

16 PRESIDING MEMBER MOORE: Mr. Miller.

17 MR. MILLER: I need to object again. I  
18 think what we've gotten is -- we need rebuttal on  
19 Mr. Rowley's analysis. We've gotten testimony  
20 that's shown that there's a difference in  
21 assumptions. I think that's sufficient. I don't  
22 think it's appropriate to go into the whys and  
23 wherefores, and go backwards and forwards on  
24 alternative water supplies. That's what we  
25 postponed, you know, pending the motions.

1 MS. POOLE: No, this is --

2 PRESIDING MEMBER MOORE: Well --

3 MS. POOLE: -- she is directly  
4 responding to something that is in Appendix Roman  
5 I, which has been submitted as an exhibit, and,  
6 you know --

7 PRESIDING MEMBER MOORE: Well, I think  
8 -- okay.

9 MS. POOLE: This is --

10 PRESIDING MEMBER MOORE: Mr. Miller, I'm  
11 going to not accept the objection. But Dr. Fox, I  
12 think it will be sufficient to make your point to  
13 simply cite the sections in the AFC where  
14 groundwater is suggested. And you've made your  
15 point already about the difference in the model,  
16 which -- which is fair game, since the --

17 THE WITNESS: Right. It's --

18 PRESIDING MEMBER MOORE; -- Table A has  
19 been presented to us.

20 THE WITNESS: It's the AFC, which I  
21 believe is Exhibit 1, page 5.4-4, and the bottom  
22 paragraph very clear states that groundwater is at  
23 the plant site about a thousand feet below ground  
24 surface. In my calculations, I conservatively  
25 assumed that you'd have to drill 1500 feet, so I

1       actually overestimated the cost.

2               PRESIDING MEMBER MOORE:  Yeah.  I don't  
3       know that -- those calculations are not in  
4       evidence, but we -- I'll accept -- I accept your  
5       criticism that the model doesn't do that.  That's  
6       fairly clear.

7               MS. POOLE:  May I make a clarification.  
8       I believe that those calculations actually are in  
9       evidence.  That's part of the ThermoFlow  
10      calculation that Dr. Fox was referring to before  
11      that's in the opening brief.

12              PRESIDING MEMBER MOORE:  All right.  So  
13      noted.  Thank you.

14              THE WITNESS:  Right.  The -- my  
15      calculations are laid out in my supplemental  
16      testimony that we talked about in the March 9th  
17      hearing.

18              PRESIDING MEMBER MOORE:  Okay.

19              THE WITNESS:  But it -- this is only one  
20      of several lines of evidence that there is indeed  
21      groundwater at the site.  The recently released  
22      AFC for the Midway-Sunset project includes a --

23              MR. MILLER:  Excuse me.

24              MS. WILLIS:  I'd have to object to that,  
25      as well.

1                   PRESIDING MEMBER MOORE: No, no. I --  
2                   no. Stop. Stop. Okay.

3                   You've made your point. Continue  
4                   your -- if you've got other points on rebut,  
5                   let's --

6                   THE WITNESS: Okay.

7                   PRESIDING MEMBER MOORE: -- go to those.

8                   THE WITNESS: Still on the same page of  
9                   Mr. Rowley's testimony, page four, and also in his  
10                  oral testimony earlier this morning, there was an  
11                  allegation that a dry cooling system for this  
12                  project would take up two to three acres of land.  
13                  And in the written testimony it actually says two  
14                  acres. And its claim that the footprint of an air  
15                  cooled condenser would measure 250 feet by 300  
16                  feet, which works out to about two acres if you do  
17                  the math, I disagree with that number.

18                  I got a vendor quote from GEA, who is  
19                  the largest vendor of dry cooling systems,  
20                  specifically for this project. The vendor quote,  
21                  which is in, I believe, Attachment 4 to the  
22                  opening brief, shows that the footprint for a dry  
23                  cooling system sized for this specific project  
24                  would measure 215 by 220, and it would occupy  
25                  about one acre.

1           The ThermoFlow programs that I talked  
2       about earlier likewise sizes the air cooled  
3       condenser, and those calculations show a footprint  
4       of 210 by 210 feet, which again is about one acre.

5           So the area occupied claimed by the  
6       Applicant is overstated by a factor of about two  
7       to three.

8           PRESIDING MEMBER MOORE: Am I doing the  
9       math wrong? I'm getting 63,000 feet, about an  
10      acre and a half. Am I wrong?

11          THE WITNESS: For which?

12          PRESIDING MEMBER MOORE: For 215 by 220.  
13      I just -- I just roughed it out, but --

14          THE WITNESS: 215 -- 215 by 220 is  
15      47,400 square feet.

16          PRESIDING MEMBER MOORE: -- 47 -- so I  
17      did do it wrong. Okay. No, you're -- you're  
18      right. I stand corrected.

19          THE WITNESS: Which is 1.1 acres.

20          PRESIDING MEMBER MOORE: Thank you.  
21      I'll bring my calculator with me next time.

22          (Laughter.)

23          PRESIDING MEMBER MOORE: Won't trust  
24      my -- how did I do that? I won't trust those  
25      guys.

1           THE WITNESS: Also, it's important when  
2     you're thinking -- thinking about the footprint  
3     occupied by one of these. You have to realize  
4     that a wet cooling system is quite large. A wet  
5     cooling system for this project would occupy about  
6     half an acre. So what we're talking about here is  
7     an increase in the footprint size of about half an  
8     acre.

9           I'd next like to go to Table A, which is  
10    the table that was handed out at the beginning of  
11    this session. And first, before I launch into the  
12    details, I would like to say that in my opinion,  
13    this is the wrong way to address the issue of  
14    economically unsound.

15           Economically unsound really means  
16    whether or not the project is profitable. And a  
17    lender does not look at net present value. A  
18    lender, as you know, is concerned about the IRR,  
19    the internal rate of return. This -- this is not  
20    a reasonable way to approach it.

21           But beyond the big picture, I have  
22    problems with many of the numbers in this table,  
23    and I would like to go through some of them.

24           First, the very top line, which is the  
25    biggest number, the subtotal for the cooling



1 system, which is the \$28.9 million for the dry,  
2 and then the delta of 18.3 that we talked about  
3 earlier. The 18.3 million, which is the delta  
4 column, or the difference between the cooling  
5 system for the dry compared to the wet, for the  
6 two cases that the Applicant looked at, it's the  
7 same number, 18.3, is meant to reflect the  
8 increase in capital cost of the dry cooling system  
9 compared to the wet cooling system. And that's  
10 based on, according to Mr. Rowley's testimony, pro  
11 forma capital costs from Black and Veatch based on  
12 a generic two on one, 500 megawatt plant, which is  
13 included in Attachment 1.

14 And what they did was they calculated  
15 the cost for a wet condenser system and a dry  
16 condenser system, and they subtracted the two, and  
17 that difference is 18. -- 18.3, which is claimed  
18 as the increase in cost due to the dry system  
19 compared to the wet system.

20 Well, that number is very unreasonable.  
21 It's hard to comment, because they don't provide  
22 any support for the Black and Veatch pro forma  
23 cost. But it's clearly wrong, and the way you can  
24 tell that it's wrong is you can look at our  
25 opening brief, in Attachment -- Attachment 3,

1       which is a cost estimate provided by GEA, who  
2       supplies 90 percent of the dry cooling systems in  
3       the world. They provided an estimate for the Elk  
4       Hills project, and the cost for the dry cooling  
5       system alone -- we're not talking incremental  
6       cost, we're not talking difference between dry and  
7       wet, we're just talking about the dry system --  
8       that cost, if you look on the first page of  
9       Attachment 3, is \$12.45 million.

10               Well, they're showing the difference  
11       between dry and wet as 18.3 million. Clearly,  
12       something is wrong. And as I sit here, I have no  
13       way of addressing it because their 18.3 million is  
14       based on generic Black and Veatch costs that have  
15       not been supported in any way, other than a table  
16       that I'm asked to take on face value. And based  
17       on face value, it's clearly not correct.

18               The next number I'd like to talk about  
19       in this table is -- well, we talked about under  
20       water supply. I'm going to be moving down Table  
21       A. Under water supply, we have 1.7 million  
22       entered for the dry Scenario 2, and 2.4 for the  
23       Scenario 3. This goes back to the issue we  
24       discussed earlier of assuming that there was no  
25       onsite groundwater so there's a cost associated

1 with running a long pipeline to bring the water  
2 in. That would not be a reasonable assumption for  
3 a dry scenario. It should be zero in there.

4 Moving on down the table, for the water  
5 treatment cost, the Applicant shows under Scenario  
6 1, which is the wet scenario, a cost of .5  
7 million, compared to my cost over in the first  
8 column of 1.6 million. The .5 million, if you  
9 read the footnotes, come from Attachment 3 of Mr.  
10 Rowley's testimony, and those are supposedly the  
11 costs associated with treating the water for a  
12 conventional wet cooled system.

13 There are a number of problems with that  
14 number. It is very low. My number is actually  
15 low, but the .5 is really low. And I would like  
16 you to turn, if you have CURE's opening brief --  
17 Applicant's -- the Applicant's opening brief.

18 PRESIDING MEMBER MOORE: That's Exhibit  
19 40.

20 THE WITNESS: To Attachment 3, which is  
21 entitled water treatment plant cost estimate, Elk  
22 Hills Power project, which is a bid prepared by  
23 Bibb and Associates. The .5 million that was  
24 assumed for water treatment costs in that wet case  
25 comes off of this table. And it corresponds to

1 the item labeled mixed bed demineralizer. Okay.

2 In a normal power plant, you would, and  
3 could treat all of the water for the plant,  
4 cooling tower makeup, boiler blowdown, injection,  
5 steam injection for power augmentation, you could  
6 treat all of that water using a demineralization  
7 system, and you could get down to distilled water  
8 quality. The feasibility of it is not in  
9 question.

10 However, the costs would be very  
11 different than the half a million dollars shown  
12 here, and the reason is very simple. The costs  
13 that are shown here first assume that the water is  
14 pre-treated by reverse osmosis. Reverse osmosis  
15 takes out most of the total dissolved solids, or  
16 the TDS. So the water that is going into the  
17 demineralization system that is costed here has  
18 already been extensively treated. And the sizing  
19 and the cost of a treatment system depends on the  
20 flow into it and the amount of stuff in the water  
21 that you're trying to take out.

22 Well, here, what they have done is they  
23 have plopped the cost for a demineralization  
24 system preceded by a softener and three stages of  
25 reverse osmosis, and stuck it down as the cost

1       that you would pay to demineralize 100 percent of  
2       the flow into the power plant without any pre-  
3       treatment. In fact, the cost of a demineralizer  
4       sized to treat 100 percent of the flow for this  
5       power plant would cost four times this. It  
6       wouldn't cost half a million dollars, it would  
7       cost at least \$2 million.

8               And you can -- another problem with it  
9       is this cost estimate prepared by Bibb and  
10      Associates in Attachment 3, is -- is based on only  
11      the balance of plant water demand being treated.  
12      Assuming dry cooling the total water demand for  
13      the plant is 3,200 acre/feet, 95 percent of which  
14      is for cooling, and the balance of the plant  
15      demand is a small portion of that, 500 gallons per  
16      minute, roughly. And the size of the  
17      demineralizer that you would need to treat the  
18      whole flow, as opposed to just the balance of the  
19      plant minus the cooling tower would be a lot  
20      bigger than this.

21               So the point is --

22               BY MS. POOLE:

23               Q     Excuse me, Dr. Fox. Can you explain how  
24      you know that's based on the balance of plant  
25      demand?

1           A     Because the title says so, and Mr.  
2     Rowley testified to it earlier. The title says  
3     air cooled condenser, Tulare Groundwater, zero  
4     discharge. So it's assuming that the cooling  
5     tower demand is being supplied, or being replaced  
6     by the air cooled condenser. And the other  
7     demands, the boiler feed water, steam injection,  
8     surface water, is supplied by this treatment  
9     system, which is a, you know, five percent of the  
10    total amount of water that would have to be  
11    treated in a pure wet cooling system.

12                Okay. The next item I would like to go  
13    to is under wastewater disposal. There are costs  
14    shown there of 1.4 million for a 4.4 mile long  
15    wastewater pipeline, which takes the water from  
16    the plant to a well injection field and deep well  
17    injects it. That cost was estimated based on what  
18    appears to be a very low dollars per linear foot  
19    of pipe. They used \$10, and the actual number is  
20    quite a bit higher than that, which accounts for  
21    the difference between my estimate of 2.7 million  
22    and their estimate of 1.4.

23                Then moving further on down the table,  
24    the next place I have a lot of problems is the  
25    West Kern Water District water charges. They

1       calculated the cost of water assuming West Kern  
2       Water District charges \$350 an acre/foot, where I  
3       assumed 545. My number was gotten by calling up  
4       the West Kern Water District and asking them how  
5       much they were going to charge Elk Hills, and I  
6       was told \$545 an acre/foot.

7               That also happens to be the cost that is  
8       in the existing contract between West Kern Water  
9       District and the Elk Hills Oilfield. It's also  
10      the cost that La Paloma will pay, 545, not 350.

11             And while I'm on the water cost, I would  
12      like to point out that that cost, \$545 an  
13      acre/foot, is a subsidized water cost. Most of  
14      the cost of providing that water is subsidized by  
15      the people of the State of California, because  
16      it's water imported by the State Water Project.  
17      If you had to pay the true cost of water, it would  
18      be substantially higher.

19             Anyway, if you take and correct those  
20      factors that I just finished talking about, and  
21      revise the calculations at the bottom of this  
22      table, this 20 year net present value, you end up  
23      with a difference of 5.8 million instead of 28.6  
24      million. So these are not small matters that  
25      we're talking about here, they're quite

1 significant.

2 Q That's the difference between Scenario 1  
3 and Scenario 2?

4 A Yes, the difference between Scenario 1  
5 and Scenario 2. I did not address Scenario 3,  
6 which is the Applicant's revision to my scenario,  
7 my dry scenario, because it assumes that you would  
8 build a 9.8 mile long pipeline to bring in a very  
9 small amount of water, 500 gallons per minute,  
10 basically. And I don't think that most engineers  
11 would spend that kind of money to bring in so  
12 little water. They would look at other options  
13 that were available. So I consider the  
14 Applicant's Scenario 3 to be unreasonable on the  
15 face of it.

16 PRESIDING MEMBER MOORE: Does that  
17 conclude your rebuttal?

18 THE WITNESS: I -- probably not. Give  
19 me a few more minutes.

20 HEARING OFFICER WILLIAMS: Dr. Fox,  
21 while you're doing that, Ms. Poole, do you plan to  
22 offer the entirety of the opening brief as an  
23 exhibit, or how are you going to do that?

24 PRESIDING MEMBER MOORE: You're not  
25 speaking into the microphone.



1 HEARING OFFICER WILLIAMS: Did you  
2 hear --

3 MS. POOLE: I -- I did hear you. We  
4 could do that. My assumption was that the briefs  
5 would be part of the record, and so we wouldn't  
6 have to separately identify them as exhibits. But  
7 if it's easier, we can identify them as exhibits.

8 (Pause.)

9 THE WITNESS: I'd also like to point out  
10 --

11 MR. MILLER: Pardon me. Before you go  
12 on --

13 MS. POOLE: Let's resolve this --

14 PRESIDING MEMBER MOORE: We're just --

15 HEARING OFFICER WILLIAMS: Do you have a  
16 -- did you have a comment?

17 MR. MILLER: Yeah, if I could give one.

18 I think that taking in the entire brief is maybe  
19 going beyond testimony that would be appropriate  
20 as a -- as a normal supplemental testimony.  
21 Unfortunately, CURE did not break out in its  
22 opening brief, as did Applicant and staff,  
23 information that would be treated, could be  
24 treated as testimony if we got to this point.

25 So unlike ours, where we have an

1 attachment and it's pretty clear, we need to look  
2 at CURE's brief and see where is this testimony  
3 based. And it would seem to me that that part of  
4 the brief that is essentially legal argument on  
5 economically sound and the applicability of 75-58,  
6 as in the normal course, would not be part -- it  
7 would not be evidence. It would be legal  
8 argument.

9 So I would object just in concept to  
10 bringing the entire brief in. There may be parts  
11 of it, the factual analysis that is being  
12 testified to, which I have not objected to, in  
13 large part, could be acceptable.

14 HEARING OFFICER WILLIAMS: Ms. Poole, do  
15 you have a response?

16 MS. POOLE: I -- I understand Mr.  
17 Miller's concern. It's difficult to pull out  
18 portions of the brief that are just addressing  
19 factual information. Which is why I thought we  
20 could get it on the record that Dr. Fox was  
21 supporting those portions, and treat the entire  
22 brief as a brief that can be referred to as part  
23 of the record.

24 HEARING OFFICER WILLIAMS: Staff, do you  
25 have a comment?

1 MS. WILLIS: Yes. I guess we'd share  
2 the same concern as the Applicant, that the brief  
3 addresses factual and legal issues all in one.  
4 And our understanding was, you know, that a brief  
5 would not be considered testimony, and that's why  
6 we submitted supplemental testimony as an  
7 attachment.

8 My concern would be that the whole thing  
9 would go in, and then our brief and the  
10 Applicant's brief then are left out. Not that  
11 either should be included, but I guess my concern  
12 is that we're kind of mixing a whole bunch of  
13 stuff into one, and then either calling it all  
14 testimony, or calling it something that I'm not  
15 sure that it characterizes it accurately.

16 HEARING OFFICER WILLIAMS: Excuse us.

17 (Pause.)

18 HEARING OFFICER WILLIAMS: Our  
19 inclination at this point is to accept the  
20 Applicant and the staff's objection to inclusion  
21 of the entire brief. But to the extent that there  
22 has been testimony today that cites to the  
23 attachments and whatever, we certainly would  
24 entertain your putting those documents in  
25 separately, or leaving it on the record as it is.

1                   So there is some opportunity for you to  
2           cull out what you feel is important to mark  
3           separately, in terms of the attachments and what  
4           she's included in her testimony today.

5                   MS. POOLE:   Would you like me to do that  
6           now, or would you like me to submit a stand-alone  
7           document separately?   I can take a shot at it now,  
8           if you'd like.

9                   HEARING OFFICER WILLIAMS:   We should  
10          probably try to do it now.

11                  MS. POOLE:   Okay.

12                  HEARING OFFICER WILLIAMS:   Okay.

13                  PRESIDING MEMBER MOORE:   I'll tell you  
14          what.   We'll end up taking a short break at the  
15          end of this, and you can do it -- put your  
16          thoughts together during that.   That's -- I don't  
17          think it's fair to distract you at this moment,  
18          and then we'll have a chance to look at that in  
19          its own right.

20                  So, Dr. Fox, you're summing up on your  
21          rebuttal?

22                  THE WITNESS:   Right.   I've got three  
23          more little points that I want to make.

24                  Still on Table A, I want to point out  
25          one interesting manipulation here, which bothers

1 me a lot. What they did in this table is they  
2 first determined the total capital cost, which is  
3 kind of midway down the table. That's the amount  
4 of money that you'd have to spend now to purchase  
5 a dry cooling system or the wet cooling system.  
6 And they annualized it by multiplying it by a  
7 capital recovery factor of .16, which assumes a 30  
8 year project life.

9 And then, the balance of the table  
10 basically is -- identified all the O&M costs and  
11 the value associated with them, and then they come  
12 down to the bottom and they calculate a total  
13 annualized cost, which is the sum of the  
14 annualized capital cost plus the sum of the  
15 individual O&M cost. And then, they convert it  
16 back into a present value cost by dividing it by a  
17 capital recovery factor.

18 But this time, instead of using the  
19 capital recovery factor that they used to convert  
20 the total capital cost into an annualized cost,  
21 which was .16, they come down here at the bottom  
22 and convert the annualized cost based on a capital  
23 recovery factor of .16 in a 30 year project life,  
24 they convert that number back into a total capital  
25 cost by dividing by .12, which assumes a 20 year

1 life.

2 And that makes a difference of about  
3 \$1.3 million in the bottom line. And I think that  
4 it is a bit deceptive.

5 The second point that I would like to  
6 make is this way of doing a cost analysis, which  
7 I've already stated I disagree with because I  
8 don't think the important factors should be net  
9 present value, I think it should be IRR, but  
10 assuming that you accept this method of doing it.  
11 This -- this kind of presentation of cost data is  
12 quite similar to what the US EPA uses in  
13 evaluating the cost effectiveness of pollution  
14 control technology.

15 The EPA has a big fat manual called the  
16 OAQPS manual, that lays out the procedure for  
17 determining the cost effectiveness of pollution  
18 control equipment in terms of dollars per ton of  
19 pollutant removed.

20 MR. MILLER: Objection. This is no  
21 longer rebuttal.

22 MS. POOLE: This is --

23 MR. MILLER: I thought this was what it  
24 was.

25 MS. POOLE: This is responding to the

1 analysis that's in this table. And explaining why  
2 Dr. Fox believes it's the incorrect paradigm to  
3 use.

4 MS. WILLIS: I'd like to add to that  
5 objection. I don't believe that this information  
6 is in the record or in Dr. Fox's testimony. And  
7 it does go beyond --

8 MS. POOLE: This is Dr. Fox's opinion.  
9 There's not any new --

10 MS. WILLIS: Well, she's discussing EPA  
11 procedures on cost effectiveness of pollution  
12 control --

13 PRESIDING MEMBER MOORE: With regard to  
14 what was submitted by the Applicant and what was  
15 done by Mr. Rowley today, I'm going to sustain the  
16 objections and ask you to go on to your final  
17 point, Dr. Fox.

18 THE WITNESS: Okay. The final point is  
19 actually getting back to a favorite topic of  
20 competitiveness. I think it's important to  
21 realize that the Elk Hills project is the only  
22 project that does not include any alternative  
23 water conservation measures. Every other plant  
24 that's been proposed in West Kern County, every  
25 other plant that's using West Kern Water District

1 water, is proposing some form of recycling or  
2 alternative methods like using recycled water, or  
3 using a discharge system --

4 MR. MILLER: Objection again. I think  
5 we're going beyond again.

6 MS. POOLE: Again, we're responding to  
7 the Applicant's testimony, which talks about the  
8 competitive disadvantage it will suffer as  
9 compared to other West Kern -- or, excuse me,  
10 other Western Kern County plants. You have  
11 created that argument, and we're responding to it.

12 PRESIDING MEMBER MOORE: Mr. Miller, I  
13 think they can -- they can make the argument.

14 THE WITNESS: Anyway, in the case of our  
15 favorite alternate plant, La Paloma, they -- they  
16 are using a zero discharge system, which cuts  
17 their water use down substantially. In the case  
18 of the Sunrise project, they're recycling produced  
19 oilfield water. And so on and so forth. Every  
20 other West Kern County plant has some sort of  
21 water conservation measure built into it.

22 PRESIDING MEMBER MOORE: Thank you. You  
23 made your point.

24 All right. Well, Ms. Poole, I'm going  
25 to then shift over and go back to Mr. Miller, and



1 ask if you have recross.

2 MR. MILLER: Just plain cross, I think.

3 PRESIDING MEMBER MOORE: Or just plain  
4 cross.

5 MR. MILLER: Yeah.

6 PRESIDING MEMBER MOORE: Sorry, cross.

7 MR. MILLER: Okay. Let me just -- it's  
8 been so long since we started, I have to --

9 PRESIDING MEMBER MOORE: I'm sorry, I  
10 got --

11 MR. MILLER: -- go back and remember  
12 myself.

13 PRESIDING MEMBER MOORE: Would you like  
14 a break?

15 MS. POOLE: Commissioner, could we have  
16 a five minute break?

17 MR. MILLER: I would be happy to have a  
18 five minute break.

19 PRESIDING MEMBER MOORE: You'd be happy  
20 to have that, too. All right. Well then, why  
21 don't we take -- take it for ten minutes. That'll  
22 give Ms. Poole a little bit of time to put her  
23 codification in order.

24 MS. POOLE: Thank you.

25 (Thereupon, a recess was taken.)

1                   PRESIDING MEMBER MOORE: All right. We  
2                   are now back in session, and Ms. Poole, we'll take  
3                   your remarks and codification at the end of this.

4                   MS. POOLE: All right.

5                   PRESIDING MEMBER MOORE: And we'll turn  
6                   to Mr. Miller and ask him for his cross  
7                   examination.

8                   MR. MILLER: Very good.

9                   CROSS EXAMINATION

10                  BY MR. MILLER:

11                  Q     I'd like to just go over a bit of what  
12                  you testified to. In making these various  
13                  analyses and applying the financial -- I'm not  
14                  supposed to say models, the financial --

15                  A     Program.

16                  Q     -- programs, as you put it, that you  
17                  applied in your opening brief and also in your  
18                  critique of Mr. Rowley's cost analysis. You  
19                  applied, I assume you applied your best  
20                  professional judgment in doing those things.

21                  A     I did --

22                  Q     Is that correct? You applied your best  
23                  professional judgment in making those various  
24                  analyses and manipulating the programs, operating  
25                  the programs properly, and critiquing the cost

1 analysis that Mr. Rowley prepared?

2 A Yes.

3 Q And you made a number of financial  
4 conclusions and cost conclusions in that process;  
5 correct?

6 A Correct.

7 Q And as a matter of necessity, in order  
8 to evaluate the costs of a power plant, you need  
9 to get into the various design aspects of the  
10 power plants, as we've heard you testify to.  
11 Correct?

12 A Correct.

13 Q And various engineering aspects of the  
14 projects and how they would be built, constructed,  
15 and so on.

16 A Correct.

17 Q Correct? Can I ask you about your  
18 background to be doing those analyses. Do you  
19 have a degree in economics?

20 A With respect to economics, I work with  
21 an economist.

22 Q And do you have a degree in business?

23 A In what?

24 Q Business.

25 A Business? No.

1 Q And finance?

2 A No.

3 Q And do you have a degree in engineering?

4 A Yes.

5 Q Environmental engineering?

6 A Yes.

7 Q You have a -- are you a registered  
8 professional engineer?

9 A No.

10 Q Have you ever been responsible for  
11 managing the procurement of components of a power  
12 plant?

13 A Actually, I wouldn't say managing, but  
14 substantially responsible for procuring components  
15 of a power plant. It's not reflected on my  
16 resume, because my resume starts in 1971 when I  
17 moved to California. But before I moved to  
18 California, I had a long work history as well,  
19 which I don't put on my California resume, and it  
20 included working for Bechtel at a number of  
21 jobsites in California, and I actually was  
22 involved in procuring components of the Indian  
23 River Generating Station when it was built, in  
24 Bavard County.

25 Q And when was that?

1 A Pardon?

2 Q What year was that?

3 A Oh, it was in the sixties.

4 Q I can go back to the sixties, I can  
5 relate.

6 (Laughter.)

7 BY MR. MILLER:

8 Q Have you ever been a project -- power  
9 plant project development manager?

10 A Could you repeat that?

11 Q Power plant project -- this is like -- a  
12 power plant project development manager?

13 A Power plant project --

14 Q Development manager.

15 A -- development manager.

16 Q Have you developed a power project?

17 A By myself, no.

18 Q Have you been responsible for the  
19 procurement of financing for a power project?

20 A No.

21 Q Have you ever negotiated for a gas  
22 purchase for a power plant analogous -- similar to  
23 the Elk Hills Power project?

24 A Not personally, no.

25 MR. MILLER: I'd like to talk -- excuse

1 me. I'd like to turn to Mr. Rowley for a moment.

2 Oh, I'm sorry. Getting ahead of myself.

3 I have no further questions for the  
4 witness.

5 PRESIDING MEMBER MOORE: And the reason  
6 you were trying to turn to Mr. Rowley, do you have  
7 rebut testimony?

8 MR. MILLER: Yes, I do. I was getting  
9 the two confused, my apologies.

10 PRESIDING MEMBER MOORE: Okay. It is --  
11 it is staff turn. Thank you.

12 Staff.

13 MS. WILLIS: We have no cross. But we  
14 would like to provide a little rebuttal testimony  
15 at the appropriate time.

16 PRESIDING MEMBER MOORE: You'd like to  
17 provide rebuttal, as well.

18 All right. Why don't I turn to Mr.  
19 Miller, and then we'll come back to you.

20 MR. MILLER: Very good.

21 TESTIMONY OF

22 JOSEPH ROWLEY

23 called as a witness on behalf of the Applicant,  
24 having previously been duly sworn, was examined  
25 and testified further as follows:

1 DIRECT EXAMINATION

2 BY MR. MILLER:

3 Q Mr. Rowley, you've listened to the  
4 critique provided by Dr. Fox, and I need to turn  
5 to you to initially ask you if you would like to  
6 respond to her critique of the cost analysis that  
7 was included in your testimony.

8 A Yes, I'd like to respond to a few  
9 points. And these are in no particular order.

10 But, for example, the Tulare Well  
11 location. As far as what I term Scenario 2, the  
12 CURE alternative scenario, Dr. Fox has  
13 hypothetically located the wells for that scenario  
14 at the power plant site, whereas I located them in  
15 Section 18G. And that was for reasons of  
16 practicality. In terms of cost, it actually is  
17 not much of a factor. The -- the information  
18 provided by Dr. Fox in her Table 1, the overall  
19 cost of the wells and the pumps, locating them at  
20 the power plant site is \$1.8 million. In my  
21 estimate, if they're located in Section 18G and  
22 are pipelined up to the power plant, it's \$2.2  
23 million. So we're talking about a difference of  
24 \$400,000.

25 With regard to whether our project is

1 comparable to La Paloma in terms of water use, the  
2 La Paloma project does use roughly twice the  
3 amount of water as the Elk Hills project. And, in  
4 fact, was, my understanding, was recently granted  
5 an additional 500 acre/feet per year of water by  
6 the Commission.

7 The information regarding the reverse --  
8 the demineralizers, as far as the cost of those at  
9 \$500,000, the fact is, regardless of whether the  
10 project, any project -- regardless of whether the  
11 scenario reflects dry cooling or wet cooling, only  
12 the ancillary water uses are run through the  
13 demineralizer. The -- and I'm speaking of  
14 Scenario 1 versus Scenario 3, in Table A.

15 In Scenario 1 versus Scenario 3, the  
16 water treatment number is \$500,000 in both cases,  
17 and that's because you only have to run -- you  
18 only have to create boiler quality makeup water  
19 for the boiler. You don't do it for the cooling  
20 tower or other things. So it's -- it is  
21 appropriate that that equipment be sized the same  
22 in both of those two scenarios.

23 As far as Scenario 2 goes --

24 Q I need to interrupt you just for a  
25 second. I think it might be helpful for the



1 Committee to follow this if you refer to the -- in  
2 addition to the scenario number, the -- what it  
3 is, because I think we can get confused about the  
4 numbers 1, 2, 3.

5 A Sure. Scenario 1 is the proposed  
6 project, Scenario 3 is the -- still using West  
7 Kern, still using wastewater disposal wells, but  
8 going to dry cooling.

9 And in both of those cases, the water  
10 treatment system cost is -- is appropriately the  
11 same, because you're treating the same amount of  
12 water, with the same makeup, for the same purpose.  
13 That is, for boiler makeup and also for the  
14 evaporative portion of the gas turbines.

15 With regard to Scenario 2, the CURE  
16 alternative scenario, there was a statement made  
17 that on our -- my Attachment 3, which is the Bibb  
18 and Associates estimate, that the demineralizer  
19 system there is also \$500,000, and that's right,  
20 because the pre-treatment, that is the treatment  
21 by the three stage RO, produces a product water  
22 that's of similar quality as the West Kern water.  
23 And so, since the water quality going into the --  
24 into the demineralizer is the same in the CURE  
25 alternative scenario as in Scenarios 1 and 3, the

1 proposed project and the dry cooled case, the  
2 demineralizer is sized the same and has the same  
3 cost. So I'm -- I'm not understanding what the  
4 question there is.

5 The comment regarding the cost of the  
6 pipelines in Scenario 1, the proposed project, and  
7 Scenario 3, the dry cooled scenario, those  
8 pipeline estimates were performed by a registered  
9 professional engineer. And, in fact, the number  
10 shown there under Scenario 1, the proposed  
11 project, is the number that's in our pro forma for  
12 the project. So, I mean, that's the number that  
13 we rely upon when assessing the financial  
14 performance of the project.

15 Dr. Fox stated that her capital recovery  
16 factor was a 30 year capital recovery factor. In  
17 fact, if you look at her supplemental testimony,  
18 which was discussed on March 9th, it is a 20 year  
19 capital recovery factor, not a 30 year. That's  
20 shown in Footnote Number 4, to Dr. Fox's Table 1.

21 And Dr. Fox confused a net capital  
22 recovery factor with the discount rate used to  
23 calculate the 20 year net present value. Clearly,  
24 a capital recovery factor is different than a  
25 discount rate. They're different things. They

1       should be different. They're consistent with each  
2       other. But they're different concepts  
3       economically, and so you would not expect them to  
4       be the same numerical value.

5               As far as lenders go, and whether  
6       they're looking at IRRs or NPVs, an IRR and an  
7       NPV, they're equivalent ways of -- of  
8       characterizing the financial performance of the  
9       project. In my experience, lenders look at either  
10      or both. They're just alternative ways of  
11      expressing the same thing.

12             The final note, I guess, is that the  
13      Black and Veatch work done for Semptra necessarily  
14      relies, at least in part, upon information from  
15      CEA, considering CEA's position as a major  
16      supplier of air cooled condensers. So I would say  
17      that Black and Veatch's work, in terms of both the  
18      cost and the size of the facility, is consistent  
19      with information from CEA.

20             And that concludes my remarks.

21             Q     I'd like to ask you a few follow-up  
22      questions, please.

23             First of all, with regard to gas costs,  
24      have you negotiated for gas purchases for major  
25      power plants?

1           A     Yes, I have. And in fact, the  
2           supposition by Dr. Fox that the Elk Hills project  
3           somehow enjoys a gas price advantage as compared  
4           to La Paloma is simply not true. The fact of the  
5           matter is that gas has a locational price, and you  
6           can deliver gas to a location, there's a value to  
7           delivering gas to that location. And whether that  
8           value is arrived at using a commodity price plus  
9           transportation to that location from some distant  
10          point, or if it's simply because the gas  
11          originated at that point, the market price is the  
12          same either way.

13                 And I can tell you that in my  
14          negotiation with Occidental Energy Marketing to  
15          supply gas to this project, it was stated  
16          unequivocally, and they've stood by this, that the  
17          project will be provided gas at a market rate, and  
18          it was even stated that there's no reason, stated  
19          by Occidental Energy Marketing, that it would be  
20          the same rate as what they would offer La Paloma.

21          Q     There's some discussion, and we don't  
22          want to go on and on about this one, but just  
23          quickly, could you comment on the one versus the  
24          two acre site requirement for -- and where that  
25          discrepancy may lie?

1                   PRESIDING MEMBER MOORE:  It's in my  
2       mathematics.

3                   (Laughter.)

4                   THE WITNESS:  We -- we talked -- there's  
5       been discussion of the size of the air cooled  
6       condenser would vary, depending on the  
7       backpressure of the turbine that we're trying to  
8       achieve.  I mean, the lower the backpressure, the  
9       larger the structure gets.  Another variable  
10      that's not been mentioned is ambient temperature.  
11      The higher the ambient temperature that you're  
12      designing for, the larger the structure gets.  And  
13      in fact, theoretically, the structure can -- can  
14      reach infinite size if you're trying to get the  
15      steam to match up with the ambient -- ambient  
16      temperature of the air, which obviously would not  
17      be practical.  But there is a non-linear  
18      relationship between the size of the facility --  
19      or the size of the air cooled condenser and  
20      ambient temperature.

21                  Also, there are setback requirements  
22      required around the structure.  Air cooled  
23      condenser moves an immense amount of air, and the  
24      air moves up through the air cooled condenser and  
25      therefore has to be pulled in from the sides so it

1 can get under the condenser and move up. In order  
2 to allow space for the air to come in from the  
3 sides, you need some setback. And so when I speak  
4 of two acres I'm talking about the structure  
5 itself, including the large diameter piping. And  
6 by the way, this piping is -- is huge, it's --  
7 we're talking, in some cases, 14 feet in diameter  
8 as it originates from the steam turbine.

9 It includes both that, as well as the  
10 setbacks. When you throw in the setbacks, then  
11 it's two to three acres, instead of just the two  
12 acres.

13 Q Thank you. That was more than enough.

14 I'd like to raise now the -- another  
15 question. You have a -- excuse me. Dr. Fox I  
16 believe testified that -- criticized the use of  
17 NPV, or net present value, as opposed to an  
18 internal rate of return, when approaching lenders,  
19 that lenders rely on internal rate of return.  
20 Could you comment on that, please?

21 A Yeah, I think I did. It -- they're  
22 equivalent ways of expressing financial  
23 performance. Lenders -- lenders look at either or  
24 both. I think they would certainly be interested  
25 in looking at IRRs, but NPV numbers are of

1 interest, as well.

2 Q And have you participated in acquiring  
3 financing, or worked with lenders for power  
4 projects in the past?

5 A Yes, I have.

6 MR. MILLER: That concludes our rebuttal  
7 testimony.

8 PRESIDING MEMBER MOORE: Thank you.

9 Staff, questions?

10 MS. WILLIS: Yes, I just had a few  
11 questions for Mr. Layton.

12 MS. POOLE: I --

13 PRESIDING MEMBER MOORE: No, wait. No,  
14 I'm --

15 MS. WILLIS: Oh, I'm sorry. No -- no  
16 questions.

17 PRESIDING MEMBER MOORE: Okay. Thank  
18 you.

19 Ms. Poole.

20 COMMISSIONER PERNELL: Excuse me,  
21 Commissioner. I have a question. Perhaps you  
22 stated it and it kind of ran past me. But the  
23 multiplier that Dr. Fox was talking about, the  
24 1.6, and then the 1.4, did you address that?

25 THE WITNESS: The capital recovery

1 factor of .16? Yes, I did.

2 PRESIDING MEMBER MOORE: .16 versus .12.

3 THE WITNESS: Yes, I did. The capital  
4 recovery factor of .16 that Dr. Fox stated was a  
5 30 year capital recovery factor is, in fact,  
6 according to her own testimony, a 20 year capital  
7 recovery factor, as shown in Footnote 4 of Table 1  
8 of her testimony.

9 PRESIDING MEMBER MOORE: And for  
10 Commissioner Pernell's benefit, the reason you  
11 used a different .16 in this case for capital  
12 recovery, versus .12 for an assumed discount rate.

13 THE WITNESS: Right. They're different  
14 concepts. The discount rate is used in taking a  
15 stream of payments and creating a single number  
16 that's equivalent to that stream of payments.

17 PRESIDING MEMBER MOORE: An annualized  
18 number.

19 THE WITNESS: Right.

20 PRESIDING MEMBER MOORE: So it's as if  
21 equal annual payments for that. But where --  
22 where you may really want to differentiate is to  
23 what are you using the term capital recovery  
24 factor.

25 THE WITNESS: A capital recovery factor



1 is when you have a capital investment that's a  
2 one-time investment, and you want to have a  
3 convenient factor that takes into account tax  
4 effects, the cost of -- cost of equity, and a  
5 whole bunch of other things, in order to just have  
6 a convenient factor that you can multiply a  
7 capital amount by in order to annualize that  
8 number.

9 PRESIDING MEMBER MOORE: So if you then  
10 had your -- your piece of capital equipment at the  
11 end of its life span, and you'd saved up the  
12 amount that was implied by the capital recovery  
13 factor, you'd be able to reinvest and acquire a  
14 new piece of capital.

15 THE WITNESS: Yes. Includes  
16 depreciation, so forth, for that purpose.

17 PRESIDING MEMBER MOORE: Does that  
18 answer your question, Robert? Okay. Thank you.

19 Ms. Poole, let me turn back to you.

20 MS. POOLE: I do have some questions,  
21 but how many questions I have depends on what  
22 we're going to do here with additional testimony.  
23 If staff is going to put on additional rebuttal,  
24 then I'd like to have Dr. Fox have that  
25 opportunity as well. Typically, you know, the --

1                   PRESIDING MEMBER MOORE: Additional  
2           rebuttal? No, I allowed Dr. Fox to have rebuttal,  
3           and Mr. Rowley has just tried to answer that  
4           rebuttal. I -- I didn't actually see a rebut,  
5           I -- technically, you can classify it as that.

6                   And I was assuming that staff would take  
7           the same tack, if you will, with regard to Dr.  
8           Fox's rebuttal, and/or Mr. Rowley's. But I wasn't  
9           anticipating new testimony.

10                  MS. POOLE: No, no. I'm not  
11           anticipating new testimony, either. But  
12           typically, all the parties have one opportunity to  
13           present their testimony, and then often the  
14           Applicant is given an opportunity to rebut the  
15           rebuttals, if you would, and it stops there  
16           because the Applicant has the burden of proof.

17                  MS. WILLIS: Actually, that's --

18                  MS. POOLE: It's highly unusual to allow  
19           staff to have a rebuttal to the rebuttal. And --

20                  MS. WILLIS: Actually, we -- that's not  
21           the way that we've done it here. We've been  
22           allowed -- staff has been allowed to rebut the  
23           testimony, because we don't have an opportunity to  
24           rebut Dr. Fox's testimony. Dr. Fox has already  
25           hear our testimony, and then she has already

1        rebutted both Applicant's and our testimony.

2                PRESIDING MEMBER MOORE: Well, at this  
3 stage, actually, Kate, I think you've gotten a  
4 little bit ahead of yourself. What I was  
5 anticipating -- and you can bring your point up  
6 again, I think, as soon as you're finished -- I  
7 offered staff an opportunity to question Mr.  
8 Rowley on what he has just said. I'd like to  
9 offer that to you.

10              MS. POOLE: Yeah, I understand that's  
11 where we are. And I will take that opportunity.

12              PRESIDING MEMBER MOORE: And then we'll  
13 get staff to state their intentions. Then let me  
14 entertain --

15              MS. POOLE: Okay.

16              PRESIDING MEMBER MOORE: -- a potential  
17 objection on your part.

18              MS. POOLE: My concern is that Dr. Fox  
19 could address some of the rebuttal points that Mr.  
20 Rowley has raised, and if she's going to be  
21 provided that opportunity --

22              PRESIDING MEMBER MOORE: That -- no, no.  
23 He's -- he's responded to her rebut. What I  
24 don't want to do is to open this to a dialogue.  
25 That's -- an endless sort of round of -- I don't

1 want to go there.

2 So I -- let me just say that I -- my  
3 intention is -- my intention all along has been to  
4 try to get the clearest set of answers to the  
5 questions that I asked. That's really my motive  
6 here, is to try and get those on the record. I'm  
7 not interested in staff or the Applicant or the  
8 intervenors opening up a new round of inquiry or  
9 testimony that, had we all been facile enough we  
10 would've done in the first round, or arguably. I  
11 don't want to do that. It wouldn't be fair to the  
12 process.

13 MS. POOLE: And that's not what I'm  
14 suggesting here either, Commissioner. My concern  
15 is that I feel like we're at a serious disadvantage  
16 here, that -- that everybody else is getting two  
17 bites at the apple, and we're only getting one.  
18 And --

19 MS. WILLIS: We're willing to waive our  
20 opportunity to rebut if Dr. Fox is not going to  
21 provide anymore comment. I mean, if that -- if  
22 that's the case, if there's only a -- another, you  
23 know, recross of Mr. Rowley and that will end this  
24 portion of the hearing, I think we'd be willing to  
25 do that.

1 MS. POOLE: Okay.

2 MS. WILLIS: We haven't done that in the  
3 past. Dr. Fox has actually gotten two  
4 opportunities to rebut. She rebuts in her direct,  
5 and then rebuts again. So that's -- that's been  
6 the case.

7 However, we're more than willing to  
8 waive -- we just had one or two follow-up  
9 questions.

10 PRESIDING MEMBER MOORE: Let's remember  
11 we're on the record here, and we want this for, as  
12 I believe Ms. Poole had said, for posterity, to be  
13 able to look at this record. And I don't think  
14 what we really want is a feud. So I accept your  
15 offer, counselor, and I'll entertain questions.

16 Ms. Poole. On Mr. Rowley's most recent  
17 remarks.

18 MS. POOLE: Thank you.

19 MR. MILLER: I just want to note for the  
20 record we got through that entire thing without my  
21 saying a word.

22 (Laughter.)

23 PRESIDING MEMBER MOORE: Until now.

24 MR. MILLER: That's why I had to say  
25 something.

1 PRESIDING MEMBER MOORE: Okay.

2 CROSS EXAMINATION

3 BY MS. POOLE:

4 Q Mr. Rowley, you were discussing the gas  
5 price advantage which was discussed earlier. Is  
6 it your position that the Energy Commission report  
7 which states that Cool Water prices are less  
8 expensive than PG&E or SoCalGas gas prices because  
9 there is not transportation involved, is  
10 incorrect?

11 A I didn't say that.

12 Q So you agree with the -- that  
13 conclusion?

14 A That the Cool Water price does not  
15 include PG&E or SoCalGas transportation charges?  
16 I have no reason to disagree with that.

17 Q No. My question is whether you disagree  
18 with the Energy Commission report's conclusion  
19 that the Cool Water price for gas is less  
20 expensive than PG&E and SoCalGas price for gas  
21 because it does not include transportation costs?

22 A As I just stated, I have no reason to  
23 disagree with that conclusion.

24 Q Okay.

25 A Based on the Commission's analysis.

1           Q     So transportation costs do increase the  
2     price that somebody is paying for gas, is the  
3     conclusion that follows from that.

4           A     As I stated, the price of gas is  
5     locational in nature, and that price is going to  
6     include transportation if the gas is being  
7     transported from a distant location. If the gas  
8     is being produced at that same location the price  
9     is the same, and the market pays a certain  
10    clearing price for a commodity at a location.

11          Q     Well, that -- your statement there  
12    disputes the conclusion of the Energy Commission  
13    report.

14          A     No, I don't think so.

15          Q     Which is that the Cool Water price for  
16    gas is different because it does not include  
17    transportation costs. That the price that buyers  
18    will pay for that gas is less.

19          A     I think my statement is consistent with  
20    the Commission finding in that regard.

21                MS. POOLE: All right. May I have just  
22    a moment, please?

23                (Pause.)

24                PRESIDING MEMBER MOORE: Anymore  
25    questions?

1 MS. POOLE: I believe just one more  
2 question. Thank you for your patience.

3 BY MS. POOLE:

4 Q Mr. Rowley, I believe you stated that  
5 water going into the demineralization system after  
6 three stages of reverse osmosis and filtering  
7 would be the same quality -- excuse me. Water  
8 coming out of three stages of reverse osmosis and  
9 filtration would be the same quality of water as  
10 West Kern Water District water.

11 A In this particular case, and that was  
12 done in part to simplify the analysis so that we  
13 could use the same demineralizer cost across the  
14 boards for all three -- all three scenarios, a  
15 reverse osmosis system is capable of better  
16 product water than that. But keep in mind that in  
17 this particular case we're talking about water  
18 going into the RO system that's between 4500 and  
19 6,000 milligrams per liter of dissolved solids, so  
20 this is brackish, almost saline water going in.  
21 It's not unusual to accept a lower than usual  
22 quality product water coming out and make up the  
23 difference in the demineralizer. It just depends  
24 on the reject rate that's set.

25 Q And what was that rate for this



1 estimate?

2 A I believe it was 25 percent. It was  
3 either 20 or 25, in that range.

4 Q Of reduction?

5 A No. The reject rate.

6 Q Can you explain what that means, the  
7 reject rate?

8 A Yeah, I think I covered this actually on  
9 March the 9th, but the -- a reverse osmosis system  
10 is suitable for -- for makeup in that it creates a  
11 higher quality product coming out of the RO, but  
12 it also has a reject stream leaving the RO that  
13 contains most of the dissolved solids. The ratio  
14 of the volume flow rate of the reject stream to  
15 the supply stream is called the reject rate.

16 So a reject rate of 20 percent, for  
17 example, says that if you had 500 gpm going into  
18 the RO, that 20 percent of that, or 100 gpm would  
19 be leaving as the reject stream with most of the  
20 dissolved solids.

21 Q What would be the TDS content of Tulare  
22 groundwater that went into the system that's been  
23 costed here, and went through two water softeners,  
24 three stages of RO, and a filter? What would be  
25 the TDS content of that water coming out?

1           A     Of the RO? The product water, or the  
2     reject water?

3           Q     Product water.

4           A     I believe the number that was used is  
5     something on the order of 400 milligrams per  
6     liter. In other words, it removed more than 90  
7     percent of the dissolved solids.

8           MS. POOLE: Okay. Thanks, that's all my  
9     questions.

10          PRESIDING MEMBER MOORE: All right.

11          Major, you have a question.

12          HEARING OFFICER WILLIAMS: I'm having  
13     some trouble understanding this concept of the  
14     Cool Water gas prices. What I want to know is, is  
15     there a different price that the user, the end  
16     user pays for the gas based upon how it's  
17     transported to the site? That seems to be what  
18     the Energy Commission report indicates, but I'm  
19     not getting a clear answer on -- or at least an  
20     answer that satisfies me.

21          THE WITNESS: It depends upon the  
22     liquidity at that trading point. If there's a  
23     physical interconnection there with alternative  
24     means of delivering to that point, and there are  
25     buyers and sellers at that point, then there will

1 be a market clearing price struck at that point  
2 and it will be one price. If there's an absence  
3 of liquidity, or there's inadequate liquidity, in  
4 other words, not enough suppliers, not enough  
5 buyers in order to create a strike price, then  
6 it's conceivable that you could end up with some  
7 disparity depending on how the gas got there.

8 Also, certainly there would be a  
9 disparity, or could be, if there was not the  
10 physical interconnection to begin with.

11 In other words, we're talking about the  
12 same point geographically, but not the same point  
13 in the gas pipeline system because the pipes  
14 aren't connected together. And I can't tell you  
15 whether or not the pipes are connected together at  
16 Cool Water. I'm not familiar with the details of  
17 that part of the gas system.

18 HEARING OFFICER WILLIAMS: Okay.

19 PRESIDING MEMBER MOORE: Commissioner  
20 Pernell, any other questions?

21 COMMISSIONER PERNELL: No.

22 PRESIDING MEMBER MOORE: All right.

23 Well, this -- this is closed. Let me then, and  
24 we'll next go to Ms. Poole's filing.

25 But before we leave that, just -- just

1 one last question, Mr. Rowley, based on what Major  
2 just asked you.

3 I'm struck by the concept of the gas  
4 price and the phrase, because they can, which I  
5 think was -- someone shadowed that phrase earlier  
6 on. Right now, you don't -- your client does not  
7 control any gas wells in the -- in the area; is  
8 that correct?

9 THE WITNESS: The Elk Hills Power  
10 project being separate and apart from Occidental  
11 of Elk Hills?

12 PRESIDING MEMBER MOORE: Right.

13 THE WITNESS: You're speaking to the  
14 fact that those are different entities?

15 PRESIDING MEMBER MOORE: Different  
16 entities.

17 THE WITNESS: In fact, the Elk Hills  
18 Power project, Elk Hills Power LLC, is 50 percent  
19 made up of Semptra, which is basically Semptra  
20 Energy Resources, which is a power plant  
21 developer, and not -- not part of Occidental at  
22 all. So we're -- the power project is -- you're  
23 correct, a separate entity from the gas field.  
24 And therefore does not --

25 PRESIDING MEMBER MOORE: In this case --

1 THE WITNESS: -- control the field.

2 PRESIDING MEMBER MOORE: -- if  
3 Occidental has a well onsite, and they bring gas  
4 to the surface and at the -- at the well end,  
5 delivered price is X, they're capable of inflating  
6 that price to a market clearing price which allows  
7 them a bigger margin of profit because they are  
8 discounting away, or in fact simply avoiding any  
9 transport costs to a customer who might be at or  
10 approximate to the wellhead.

11 THE WITNESS: That -- that's true. In  
12 other words --

13 PRESIDING MEMBER MOORE: And it's their  
14 choice. I mean, they -- they could --

15 THE WITNESS: In other words, stating it  
16 as the market clearing prices are based on supply  
17 and demand, not on cost.

18 PRESIDING MEMBER MOORE: Right. They  
19 may have other customers, as well, in the -- in  
20 the vicinity, and so you've got a demand situation  
21 that is allowing them to say take it or leave it,  
22 and you want the alternative, then go pipe it in  
23 from Cool Water, and that's -- or, I'm sorry, from  
24 further away, and that's your choice.

25 Okay. Ms. Poole, back to you. Do you

1 want to describe how you want to submit this?

2 MS. POOLE: I'll give it my best shot.

3 PRESIDING MEMBER MOORE: I saw people --  
4 I saw people lining out paragraphs, so I figured  
5 maybe the best way is to just have you go through  
6 it page by page. Every --

7 MS. POOLE: I think I can do it a little  
8 easier than that.

9 For the opening brief, we would like to  
10 identify as an exhibit Sections 2D, 2F; Table 1 at  
11 the end; and the attachments.

12 PRESIDING MEMBER MOORE: Okay. That's  
13 pretty straightforward.

14 MS. POOLE: And for the reply brief,  
15 perhaps the easiest way to do it would just be to  
16 mark as exhibits -- excuse me. Mark as an exhibit  
17 the portions of the brief that staff has moved to  
18 strike.

19 PRESIDING MEMBER MOORE: So, that's the  
20 way you differentiate what's in the reply brief,  
21 by just saying we'll pull it out, staff has  
22 already culled it out, and you'd submit it as an  
23 exhibit.

24 MS. POOLE: Correct.

25 MS. WILLIS: I don't understand this.

1 MS. POOLE: The portions of the reply  
2 brief which you seek to strike in your motion to  
3 strike, we would have Dr. Fox sponsor those  
4 portions as an exhibit.

5 MS. WILLIS: And then we would object to  
6 that being entered as evidence.

7 MS. POOLE: Well, that depends on the  
8 Committee's ruling.

9 PRESIDING MEMBER MOORE: That -- that's  
10 a future event.

11 MS. WILLIS: Right.

12 PRESIDING MEMBER MOORE: But at least  
13 you've got something to point to, to object to.

14 MS. WILLIS: That we would mark it, but  
15 not enter it.

16 PRESIDING MEMBER MOORE: Correct.

17 MS. WILLIS: And we also would object to  
18 the portions of the brief, I believe it's 2F -- no  
19 -- yeah, 2F.

20 PRESIDING MEMBER MOORE: Two-O, or F?

21 MS. WILLIS: F as in Frank, starting on  
22 page 15.

23 PRESIDING MEMBER MOORE: Okay. And your  
24 reason for objection?

25 MS. WILLIS: My understanding, we're

1 marking what we would consider testimony --

2 PRESIDING MEMBER MOORE: Correct.

3 MS. WILLIS: -- and we would consider  
4 this actually part of their brief.

5 PRESIDING MEMBER MOORE: Okay.

6 MS. WILLIS: And argument, not straight  
7 out testimony.

8 PRESIDING MEMBER MOORE: Okay.

9 MS. POOLE: As long as no party objects  
10 to what we've provided in Section 2F coming in as  
11 part of the brief, then that's fine with me.

12 PRESIDING MEMBER MOORE: Counselor?

13 MR. MILLER: Is it my turn?

14 PRESIDING MEMBER MOORE: Well --

15 MR. MILLER: Kerry, do you want to --

16 MS. WILLIS: No, go ahead.

17 MR. MILLER: I'm in agreement with part  
18 and not with part. As normal.

19 I don't have a problem with the opening  
20 brief Section 2D, that part. That's the good  
21 news.

22 I join with Ms. Willis in her objection  
23 to 2F coming in, and further, inasmuch as it also  
24 raises issues regarding general state overdraft,  
25 or over -- excuse me, scarcity issues that were



1        objected to as part of the motion to strike the  
2        reply brief, I would not -- I would object to that  
3        here, as well.

4                Other than that, I think I'm in  
5        agreement with the proposal to mark the  
6        stricken -- the proposed to be stricken sections  
7        of the reply brief as an exhibit, but not  
8        introduce them at this point.

9                PRESIDING MEMBER MOORE:  Doesn't that  
10       take away your other objection, though, the one  
11       you just --

12               MR. MILLER:  Well, then we would mark  
13       this section 2F as well, but not have it -- have  
14       that be subject to exclusion.

15               MS. POOLE:  Mr. Rowley, are you raising  
16       a new motion to strike Section 2F?

17               MR. MILLER:  I don't think Mr. Rowley is  
18       --

19               MS. POOLE:  I'm sorry.  Mr. Miller.

20               HEARING OFFICER WILLIAMS:  Well, let's  
21       do this before we -- before we get there.  Let's  
22       determine what's in before we determine what's  
23       out.  And as I see it, next in order would be  
24       Exhibit 41.  And CURE is proposing that its --  
25       part of its brief -- I don't think there is any

1 issue about Table 1 or the attachments. So that  
2 part -- that part is -- am I correct?

3 MS. WILLIS: That's correct.

4 MR. MILLER: Correct.

5 HEARING OFFICER WILLIAMS: So --

6 MS. POOLE: Or -- or part 2D.

7 HEARING OFFICER WILLIAMS: Or part 2D.

8 Okay. So that will come in as Exhibit 41.

9 MS. POOLE: Would you like me to move  
10 that into the record?

11 HEARING OFFICER WILLIAMS: Yes.

12 (Laughter.)

13 MS. POOLE: I move that into the record.

14 PRESIDING MEMBER MOORE: And seeing no  
15 objection, hearing none from up here, we'll move  
16 it in.

17 HEARING OFFICER WILLIAMS: And that's  
18 41.

19 (Thereupon, Exhibit 41 was marked for  
20 identification and was received into  
21 evidence.)

22 HEARING OFFICER WILLIAMS: Now, as to  
23 2F, I don't really believe that 2F is real  
24 relevant to the inquiry that we need, and to the  
25 decision-making that we need to make here. I

1 mean, I -- my read on that is that it's pure  
2 argument.

3 MS. POOLE: Okay.

4 HEARING OFFICER WILLIAMS: Okay. So the  
5 objection to that part coming in will be  
6 sustained.

7 MS. POOLE: Let me just be clear. So  
8 that's part of our brief. That's just not coming  
9 in --

10 HEARING OFFICER WILLIAMS: That's part  
11 of your brief.

12 MS. POOLE: -- as an exhibit.

13 HEARING OFFICER WILLIAMS:: IT's not  
14 coming in as an exhibit.

15 MS. POOLE: Okay.

16 PRESIDING MEMBER MOORE: So that leaves  
17 the exhibit coming in, or marked as Exhibit 2F.  
18 Is that right?

19 HEARING OFFICER WILLIAMS: No. That --  
20 that leaves F as just part of the brief.

21 PRESIDING MEMBER MOORE: All right.  
22 Okay.

23 HEARING OFFICER WILLIAMS: Okay.

24 MS. POOLE: Okay.

25 HEARING OFFICER WILLIAMS: Are we clear

1 on that part of it?

2 MS. POOLE: I believe we are.

3 HEARING OFFICER WILLIAMS: Okay.

4 MS. POOLE: And then moving on to the  
5 reply brief, should we mark that as Exhibit 42?

6 HEARING OFFICER WILLIAMS: The reply  
7 brief, part of it that's in, will be -- is any  
8 part of it in? Not objectionable?

9 MS. POOLE: No, since what we're marking  
10 as an exhibit are the portions that staff has  
11 objected to in its motion to strike, it's safe to  
12 say it's all objected to.

13 HEARING OFFICER WILLIAMS: Okay. So --

14 MS. POOLE: So we can just mark that  
15 now, and --

16 HEARING OFFICER WILLIAMS: As 42.

17 MS. POOLE: Yeah.

18 HEARING OFFICER WILLIAMS: Okay. For  
19 identification.

20 MS. POOLE: Correct.

21 (Thereupon, Exhibit 42 was marked  
22 for identification.)

23 HEARING OFFICER WILLIAMS: Okay. Where  
24 does that leave us?

25 PRESIDING MEMBER MOORE: Well, I think

1       that leaves us at the end of the extensive  
2       response to my questions, and I understand that  
3       there are people in the public who would like to  
4       address us, and I'm going to entertain that. I  
5       will say that we have fairly narrow rules about  
6       the way we can take testimony. We're obviously  
7       interested, whenever it comes up, to have public  
8       testimony or comment.

9               I'll tell you that this is not sworn  
10       testimony. It will not be used other than to  
11       educate us, and as a consequence we are in a  
12       listening mode, but will not be used to provide a  
13       factual basis for the decision that comes out of  
14       here. So in a sense, it's background or  
15       enlightenment for us. And that we typically will  
16       limit this kind of testimony to a maximum of about  
17       ten minutes per person. We're not rigid on that,  
18       but if there are people who would like to address  
19       us and talk to us about the issue at hand, I --  
20       where there are other cases open, a conjecture, a  
21       statement about another case is absolutely out of  
22       bounds. Absolutely, 100 percent.

23              So the matter at hand is this case  
24       before us, and with that, I know Major's gotten  
25       some cards, so I'm going to turn back to him and

1 let him start this.

2 HEARING OFFICER WILLIAMS: I believe Mr.  
3 Ledford was here first, since early on. So, sir,  
4 do you have --

5 MR. MILLER: Excuse me, Mr. Williams.  
6 May I make a brief comment?

7 HEARING OFFICER WILLIAMS: Yes.

8 MR. MILLER: Before we start this.

9 I recognize that Commissioner Moore has  
10 already stated the rules here. I would like to  
11 request that for each commenting individual, that  
12 we obtain information concerning their residency  
13 and interest in the proceeding, if they have one.

14 PRESIDING MEMBER MOORE: Absolutely. We  
15 had -- would ask that. I'll want to know who is  
16 speaking to us, and under what context they do  
17 that.

18 MR. MILLER: And having already heard  
19 your admonishment not to bring any other case into  
20 this, we all understand that this presentation  
21 essentially is the same one that we might expect  
22 in tomorrow's High Desert proceeding, and we're  
23 not thrilled with having our proceeding in any --  
24 even an indirect way, be used as a vehicle to  
25 argue another case.

1                   So we would --

2                   HEARING OFFICER WILLIAMS:   How about --

3                   MR. MILLER:   -- appreciate some ultra-  
4                   sensitivity to that point.

5                   PRESIDING MEMBER MOORE:   Well, I think  
6                   anyone who made the mistake of trying to link  
7                   another case, either indirectly, on a matter  
8                   with -- which might come up, for instance,  
9                   tomorrow, would do so at their own peril, and risk  
10                  a great deal of wrath, as well.   So it's probably  
11                  not going to happen.   I bet.

12                  MR. MILLER:   Thank you.

13                  PRESIDING MEMBER MOORE:   Anyway, Mr.  
14                  Ledford, welcome.

15                  MR. LEDFORD:   Well, I might have to  
16                  start this over again.   But I'd like to --

17                  PRESIDING MEMBER MOORE:   You're starting  
18                  your power point presentation over again?

19                  MR. LEDFORD:   It's probably going to  
20                  just --

21                  PRESIDING MEMBER MOORE:   It's rewinding  
22                  itself?

23                  MR. LEDFORD:   I don't know what it's  
24                  going to do.   But --

25                  PRESIDING MEMBER MOORE:   Microsoft.   I

1 mean, none of us know what it'll do.

2 MR. LEDFORD: Given the -- this is not a  
3 presentation of High Desert Power for tomorrow.  
4 This --

5 PRESIDING MEMBER MOORE: Do you want to  
6 identify yourself for the record?

7 MR. LEDFORD: I certainly would.

8 My name is Gary Ledford, and I am a  
9 resident of Apple Valley, California, and I am a  
10 real estate developer. And my purpose of  
11 testifying here today is not to talk about High  
12 Desert Power. However, there may be a couple of  
13 references to things that may have been discussed  
14 here in this hearing today about High Desert  
15 Power, and to the extent that there was evidence  
16 presented in this particular hearing and about  
17 that particular project, I would ask that  
18 testimony be allowed and not be at my peril.

19 Could we have a --

20 PRESIDING MEMBER MOORE: Well, you're  
21 not testifying. You're simply commenting. You're  
22 not a sworn witness.

23 MR. LEDFORD: No, I understand, I  
24 understand that my -- my dialogue here this  
25 morning is -- or afternoon, is as a -- as



1 information to you, and as a method to inform you  
2 as to my interest in dry cooling, and to economic  
3 feasibility.

4 So given that, and I will make this ten  
5 minutes or less. I'd like to just talk about a  
6 couple of things that were talked about today.

7 One is CEQA. And the -- one of the  
8 issues of the public in the process that I think  
9 that the public expresses a lot of concern about,  
10 is getting information before you. And in the  
11 CEQA process, it's never too late to bring in  
12 information. You can bring in information anytime  
13 up until the very last hearing. And it's  
14 something that seems to be very complex for the  
15 committees that hear these cases, and evidently  
16 for the Commission.

17 But I'm concerned that there are a lot  
18 of issues that need to be brought before the  
19 Committee, and the public oftentimes finds these  
20 things out. And so with that, the -- I'm going to  
21 see if I can -- can start this -- this little  
22 sequence.

23 PRESIDING MEMBER MOORE: I couldn't tell  
24 whether -- is it going forward, or is it going  
25 backwards?

1                   MR. LEDFORD: Well, I don't know. It  
2                   seems like it just stopped and -- this is my first  
3                   time of ever working with power point, so we'll  
4                   try it again.

5                   Again, the purpose of my being here is  
6                   to talk about the argument not to use inland water  
7                   for power plant cooling. And the reason for that  
8                   is -- I don't think this is going to work. It --

9                   PRESIDING MEMBER MOORE: You may -- we  
10                  can hear --

11                  MR. LEDFORD: It will just run.

12                  PRESIDING MEMBER MOORE: Oh, all right.

13                  MR. LEDFORD: And I'll try and keep up  
14                  with it.

15                  Okay. The reason is simple common sense  
16                  and compliance. Article Section -- Article X,  
17                  Section 2 of the California Constitution requires  
18                  reasonable beneficial use. Your PRC Section 2180  
19                  requires compliance with the law, and what it says  
20                  is an activity such as wet cooling will not be  
21                  approved or adopted as proposed if there are  
22                  feasible alternatives -- I'm interlacing this,  
23                  such as dry cooling -- or feasible mitigation  
24                  measures which would substantially lessen any  
25                  significant adverse impact which the activity may

1 have on the environment.

2 That's the -- that's the governing rule.

3 That's where you start from, or at least that's,  
4 as a member of the public, where I think you start  
5 from.

6 So maybe the proper finding might be  
7 evaporative cooling will not be approved because  
8 the Commission finds dry cooling is feasible and  
9 substantially lessens many significant  
10 environmental impacts. We find that in the Sutter  
11 project, I think that's the next slide, and --  
12 hopefully.

13 Sutter's finding, and this is an  
14 approved project, was the change of use of an --  
15 the change to the use of an air cooled condenser  
16 rather than wet cooling towers results in  
17 substantially reduced environmental impacts.

18 I think that's a substantial issue that  
19 we're looking at here. What -- what is the --  
20 what is the reason for having dry cooling. From a  
21 CEQA compliance standpoint, we're looking at  
22 reducing environmental impacts. Then we look at  
23 Title X, Section 2 of the California Constitution,  
24 and that says -- that says that we have to look at  
25 the reasonable and beneficial uses of water

1 resources in the state, and to the fullest extent  
2 possible and are capable, to eliminate the waste  
3 or unreasonable use, or the unreasonable method of  
4 use of the water. And conservation is another  
5 piece of that equation. These are the things that  
6 we should be really concerned about.

7 The thing that you were talking about  
8 today is 75-58, and what 75-58 says is that you  
9 can't use inland water if other sources or other  
10 methods of cooling are available. And if you had  
11 to put a period at the end of that sentence,  
12 that -- before you get to economics, I wish I  
13 could stop that. I'll talk about economics at the  
14 very end.

15 But also look at efficiency in your  
16 process. And to be CEQA compliant, you're -- the  
17 project will normally have a significant effect on  
18 the environment if it will not encourage  
19 activities which result in the use of water.  
20 Hopefully tomorrow I'll have this down a little  
21 better.

22 At any rate, we need to look at reduced  
23 impacts of water supply. And this is in the  
24 Sutter project, your staff viewed an efficiency  
25 loss as a minor reduction. We also looked at

1 overall environmental impacts in the Sutter  
2 project, and found that -- that dry cooling  
3 resulted in significantly reduced impact.

4 When we get to -- to environmental -- or  
5 into evaporative coolers, we're looking at  
6 consumptive use. You're using 100 percent of the  
7 water that's evaporated into the atmosphere, you  
8 get no beneficial use out of the water. Whereas  
9 agricultural users and municipal users, on  
10 average, put 50 percent of their water back in the  
11 basin.

12 Now we talk about cumulative impacts.  
13 This is a real significant issue for you. When  
14 you begin to look at one power project at a time  
15 using 4,000 acre/feet, well, maybe that doesn't  
16 sound like very much. But when you begin to add  
17 those up, when you -- one after the other, and  
18 you've got like 40 in the pipeline right now, if  
19 you put ten of them in the pipeline, you're  
20 talking about 80,000 houses that you can't build  
21 because you're evaporating the water into the  
22 atmosphere. I think that's a significant  
23 cumulative impact that you're not looking at.

24 This morning, in my hotel room, there  
25 was a little placard, and it said, save our

1 planet. Every day, millions of gallons of water  
2 are used to wash towels. It said, thank you for  
3 helping us to conserve the earth's vital resource.

4 We're -- we're having low flow toilets  
5 in our residential projects. We're looking at  
6 zero landscaping. We're looking at everything we  
7 can possibly think of to ensure that we have water  
8 for the future. Putting water through cooling  
9 towers for cooling these power projects where  
10 there's a feasible alternative, is very  
11 significantly important to this Commission.

12 In every case, in other projects, the  
13 findings were that the environmentally preferred  
14 alternative was dry cooling.

15 MR. MILLER: Excuse me. I'd just point  
16 that that these slides are all quoting from the  
17 High Desert case. It seems to be beyond the pale.

18 PRESIDING MEMBER MOORE: Yeah. I --

19 MR. LEDFORD: I am going to let the slides  
20 run. The -- these findings are all on the High  
21 Desert Power case. I would note that Joe O'Hagan  
22 testified about High Desert Power. And I won't  
23 take any more admonishment, I'll just let it run.

24 But I would note that I think Joe thinks  
25 that High -- that the dry cooling would be a

1       really great idea to conserve water, and I  
2       certainly go along with him. I think this  
3       Commission should be looking at -- at the  
4       cumulative impacts of water resources in the  
5       state, and look at it not on a project by project  
6       basis, but on a cumulative basis.

7               I also think that you're obligated to  
8       comply with LORS and the constitution, Article X,  
9       Section 2, mandates a reasonable and beneficial  
10      use of water, and putting it into cooling towers,  
11      albeit there may have been 600 projects that have  
12      already been approved, it would be a little bit  
13      like making the excuse to the police officer that  
14      you saw 600 people go through the stop sign, and  
15      nobody got a ticket. Doesn't mean the law isn't  
16      there, it doesn't mean that it doesn't need to be  
17      enforced.

18             And with that, we'll talk about High  
19      Desert Power tomorrow. Thank you very much for  
20      your time.

21             PRESIDING MEMBER MOORE: Well, thank  
22      you. And thank you -- I know you sat through a  
23      very tedious set of debates and exchanges today.  
24      It takes a lot of patience to do that. So my  
25      compliments to you for being able to hold up.

1                   Do we have someone else who'd like to  
2                   address us?

3                   HEARING OFFICER WILLIAMS:   Yes,  
4                   Commissioner Moore, we do.   Ms. Nancy Crockett.  
5                   She was also here with us for most of the day, I  
6                   believe.   She identified herself this morning, as  
7                   I recall.

8                   PRESIDING MEMBER MOORE:   Another medal  
9                   winner.   Welcome to the afternoon.   The afternoon  
10                  portion of our hearing.

11                  MS. CROCKETT:   Thank you.   I was about  
12                  to fall asleep back there.

13                  PRESIDING MEMBER MOORE:   Oh, stop, now.

14                  MS. CROCKETT:   It was stimulating, to a  
15                  point.

16                  For identification purposes, I'm Marcy  
17                  Crockett.   I am an officer in a corporate  
18                  investment corporation that does investments.   And  
19                  I am a fifth generation Californian, a resident of  
20                  Burney.

21                  PRESIDING MEMBER MOORE:   Of Burney?

22                  MS. CROCKETT:   Burney, California.

23                  I heard some things mentioned today that  
24                  made me extremely concerned, and quite a bit  
25                  upset.   I will admit that.   I heard the Applicant



1       using the term economically unsound. I did not  
2       hear any comments about economically unfeasible.  
3       If we have to go to dry cooling, we will fail. If  
4       we do this, we cannot be here. We're putting  
5       dollars against limited resources.

6               Currently, in the north state, the water  
7       issue is a day-to-day issue. About two months  
8       ago, in the Tehama County, in the Record  
9       Searchlight, that is the local paper for the  
10      Redding area, they had listed water wars in Tehama  
11      County. And it had to do with allocations, which  
12      were going to be shorted. And now it was just  
13      confirmed that there will be a two percent  
14      reduction in agricultural -- excuse me,  
15      allocations, because of the delta needs to prevent  
16      salinization or for their baywaters to intrude,  
17      because we've had a dry spring.

18             The State Water Code lists that domestic  
19      uses are the highest priority for the water of  
20      California, followed by agriculture. Right now,  
21      what is happening here in the CEC is that you're  
22      taking water away from agriculture for industry.  
23      And as a taxpayer and a water user, and a power  
24      user, it doesn't make sense to me. There are  
25      other alternatives. Yes, they do cost a little

1 bit more. But I think this is the day and age  
2 when we have to make those kind of choices.

3 I was talking with Hammond Industries,  
4 who are installing the Sutter dry cooling tower.  
5 And they said -- I told them that there has been a  
6 lot of resistance to dry cooling, and one of them  
7 is economics. And I said, what is -- what is the  
8 true cost that you perceive in the Sutter plant.  
9 Hammond Industries stated the equivalent use of  
10 power for the dry cooling tower for the Sutter  
11 project, which is a 500 megawatt combined cycle  
12 plant, is four megawatts, or 0.8 percent of the  
13 total power island production.

14 That is minuscule in the terms of the  
15 water shortages that the State of California is  
16 now faced with. We don't have enough potable  
17 water for the citizens of this state. And now  
18 you're letting merchant plants come in and wanting  
19 that water, when there is technology here to  
20 answer this. Yes, it's a little bit more costly.  
21 That's okay.

22 Part of my day-to-day business to make  
23 money is to evaluate businesses. Management  
24 effectiveness is part of how I decide on whether  
25 or not I'm going to invest in a corporation. I

1 will see management effectiveness listed at  
2 positive double digit numbers. I will see them  
3 listed in negative, single digit numbers. I will  
4 see return on investments at double digit  
5 positive, and double digit negative. I will see  
6 profit margins in the plus, after taxes. And I  
7 will see profit margins, after taxes, in the  
8 negative.

9 I will put before you that if a company  
10 cannot manage to make their project work in  
11 today's economic environment, then they don't need  
12 to be here. There are other companies out there  
13 who can make their projects work. They're proving  
14 it all the time. All we have to do is find them,  
15 and if they're not willing to come, then we're  
16 going to have to make do with what we have. And  
17 maybe that is limiting the use of water and a  
18 leveling of the playing field. I don't think it's  
19 such a bad idea.

20 I've heard things talked about. There's  
21 noise. It won't meet the noise requirements. I  
22 have quotes that go from 55 decibels with fans at  
23 full, at 500 feet, to 64 decibels at 1500 feet, or  
24 500 feet, either way. I have quotes from vendors  
25 that say that they'll meet wet, wet/dry, and dry

1 at 1500 feet, at 55 decibels. I have a quote from  
2 Hammond Industries that says they have an 800  
3 megawatt plant meeting 49 decibels at 400 feet.  
4 Those are good numbers. There's nothing wrong  
5 with them.

6 Dry cooling is economically sound. If  
7 it weren't, the Sutter plant would not have been  
8 certified. The Crockett plant wouldn't be  
9 operating right now. If the current Applicant  
10 management cannot handle dry cooling, I think they  
11 need to go back to the drawing boards and figure  
12 out why. If that plant had been originally  
13 designed and taken into account the factors of dry  
14 cooling, they probably could make it work.

15 I'm not even really sure that their  
16 thing, or their statement of saying economically  
17 unsound means that they would fail. They're  
18 asking you to have the citizens of this state give  
19 up quality of life for bottom line dollar profit.  
20 And because it's proprietary, they won't even tell  
21 you what the margins are.

22 Ancillary. No one has talked about  
23 ancillary water and taking that away from the  
24 power plant. The only thing that's being  
25 discussed right now is dry cooling, and

1 groundwater pumping. Right now, you have 13 power  
2 plants in line for certification. A 500 megawatt  
3 power plant uses three million gallons of potable  
4 water every day. Three million gallons. It's  
5 criminal. Nineteen, or 13, that is -- what did I  
6 do --

7 PRESIDING MEMBER MOORE: Hold on.

8 MS. CROCKETT: -- under -- excuse me, 39  
9 million gallons a day of potable water that is  
10 being evaporated. And yet your hotels have these  
11 signs that say, if you're willing to keep your  
12 towels up one more day, we won't have to wash.  
13 And you need to plan for your environment. Don't  
14 use water. And now you're discussing right here  
15 whether or not it's economically sound to use  
16 water.

17 This is an ethics issue, and this is an  
18 environmental issue. It's nothing more than that.  
19 It's simple. The technology is there. I ask you  
20 to seriously, seriously think about dry cooling.  
21 The impacts on the daily pumping of 13 power  
22 plants is 40 million gallons of water a day. We  
23 have overdraft in the Mojave. We have farmers who  
24 are going to be reduced their water allocations by  
25 two percent because we have to meet the needs of

1 the delta requirements, which, as it should be.

2 And now you are here discussing evaporating 4,000

3 acre/feet a year for this one plant.

4 There's a conflict here. And it needs  
5 to be addressed. Thank you.

6 PRESIDING MEMBER MOORE: Thank you,  
7 ma'am.

8 Anyone else who would like to address us  
9 from the public?

10 All right. Seeing none, let me bring  
11 this back and let's go to housekeeping, then.  
12 Typical way to end one of our hearings. And I'll  
13 tell you at the front end, I committed to have the  
14 decision out in ten days. I'll -- I think I'll  
15 make that. I see no reason why we wouldn't. As  
16 fast as I can turn it around to shorten that time,  
17 I will.

18 We have some hearing dates already set  
19 coming up. Major, can I turn to you to --

20 HEARING OFFICER WILLIAMS: Yes, we do.  
21 We have hearing dates -- oh, I'm sorry. I'm  
22 sorry. We've got to talk into the mic.

23 There has been -- well, first of all, we  
24 have May 16 for air quality. And a -- the notice  
25 will be coming out. And we're proposing to go

1       into the evening on -- perhaps as late as 7:30, on  
2       the 16th, to try to complete testimony. But if we  
3       don't complete testimony on the 16th, we're  
4       looking at a backup day of the 30th of May to  
5       complete testimony in these proceedings.

6               As far as submittal of air testimony,  
7       since we are shuttling the dates a bit, I think  
8       May 8th would be a better date for submittal, one  
9       day shifted forward.

10              MS. POOLE: Is that this Monday?

11              HEARING OFFICER WILLIAMS: Yes, this  
12       Monday. Okay.

13              So the submittal of testimony will now  
14       be due on May 8th.

15              I will, as soon as we put together a  
16       revised exhibit list, I will e-mail it to the  
17       parties, so that when we come back on the 16th you  
18       all will have had a chance to look at that.

19              And I think as far as housekeeping  
20       matters go, Commissioner Moore, that's all I have.

21              PRESIDING MEMBER MOORE: Commissioner  
22       Pernell.

23              COMMISSIONER PERNELL: I don't have  
24       anything.

25              PRESIDING MEMBER MOORE: All right.

1                   Mr. Miller.

2                   MR. MILLER: I have a couple of things.

3                   I -- we were enjoying ourselves so much earlier  
4                   that I think I neglected to formally move  
5                   admission of our testimony.

6                   PRESIDING MEMBER MOORE: You did, and I  
7                   was remiss in not asking about it.

8                   MR. MILLER: That would be Exhibit 40, I  
9                   believe.

10                  PRESIDING MEMBER MOORE: Without  
11                  objection -- is there any objection? None. So it  
12                  will be moved.

13                  (Thereupon, Exhibit 40 was received  
14                  into evidence.)

15                  MR. MILLER: Thank you.

16                  I would also like to just make a comment  
17                  that I believe will be agreed to by everyone, but  
18                  just for a reminder. Back in our pre-hearing  
19                  conference we had a discussion about covering  
20                  alternative aspects of the project in the topical  
21                  areas as we go. So I just wanted to suggest that  
22                  we're covering right now alternatives with regard  
23                  to cooling, and we've had hearings on water and  
24                  hearings on biology. And I don't want us to have  
25                  to revisit these issues at another time, and once



1       again have that issue come up when we reach  
2       alternatives on May 16th.

3               So I would just like to raise that  
4       point.

5               HEARING OFFICER WILLIAMS:  If we reach  
6       alternatives on May 16th.

7               MR. MILLER:  Right.  If -- if and when  
8       we reach alternatives on May 16th.

9               PRESIDING MEMBER MOORE:  All right.  So  
10      noted.

11              MR. MILLER:  Thank you, sir.

12              PRESIDING MEMBER MOORE:  I understand.  
13      I understand completely.

14              All right.  Other housekeeping items?

15              All right.  Well, thank you for your  
16      great patience, and this hearing is adjourned.

17              (Thereupon, the hearing was adjourned  
18      at 4:15 p.m.)

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## CERTIFICATE OF REPORTER

I, DEBI BAKER, an Electronic Reporter,  
do hereby certify that I am a disinterested person  
herein' that I recorded the foregoing Energy  
Commission Hearing; that it was thereafter  
transcribed into typewriting.

I further certify that I am not of  
counsel or attorney for any of the parties to said  
Hearing, nor in any way interested in the outcome  
of said hearing.

IN WITNESS WHEREOF, I have hereunto set  
my hand this 10th day of May, 2000.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

